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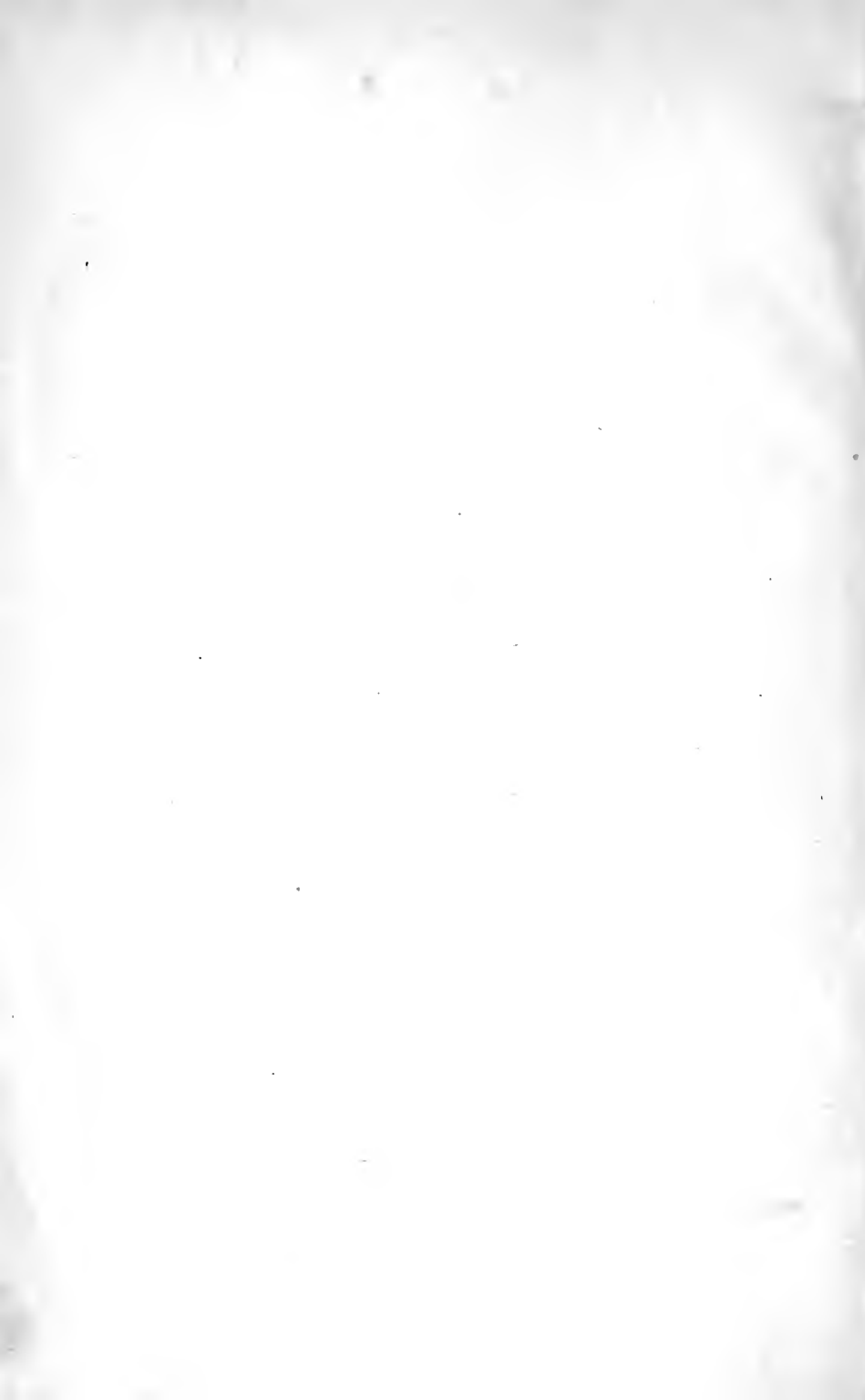


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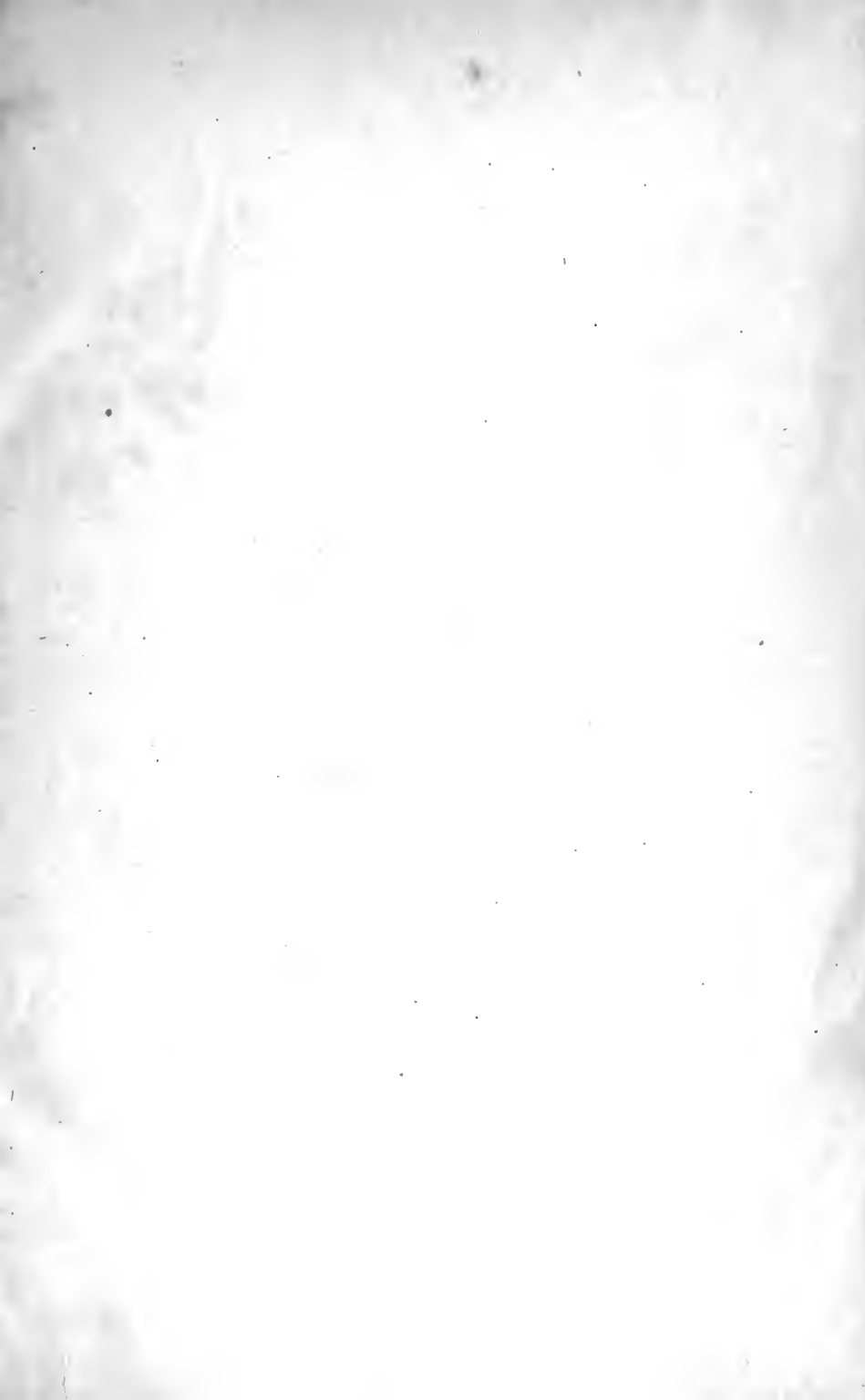
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# NORTH CAROLINA MEDICAL JOURNAL.

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## ORIGINAL COMMUNICATIONS.

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### THE CONDITIONS ESSENTIAL TO THE PROPAGATION AND SPREAD OF THE INFECTIOUS DISEASES.

Address delivered before the Medical Society of North Carolina,  
at Greensborough, N. C., May 23, 1879, by the retiring President

CHARLES DUFFY, JR., M. D., Newbern, N. C.

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*Gentlemen of the Medical Society of North Carolina:*

In selecting as the subject of my address on this occasion, "The Conditions Essential to the Propagation and Spread of the Infectious Diseases;" I am actuated by a sense of the vast importance of the subject not only to ourselves, but to humanity at large: important to ourselves, because of the disappointment and failure that attend our efforts to check and subdue these diseases; important to humanity, because of the immense rôle they play in the cause of suffering and misery and in the destruction of human life. A few years service in the medical walks of life is sufficient to convince the most sanguine, of our utter weakness in the presence of almost all of these diseases; we know they defy us, and we soon become to accept

the conviction of most of our intelligent confrères, that it is folly for us to try to cure them, that we may even do more harm to our patient in the attempt to cure, than we do good. How many vaunted remedies in the last few years have we proved worthless in diphtheria, in yellow fever, until now we regard it as an insult for an educated man to ask us to believe he can fabricate a potion or a pill that can quell the storm set up in the organism by the germs of these diseases !

Checked then, on the very threshold of our attempt to cure, it is high time we should change our line of action in regard to these diseases, and that line from my standpoint, should be made to lead in the direction of preventive medicine.

The time has seemed to come at last, when it is no longer necessary that we should importune our law-makers to enact laws to protect themselves and their constituents from pestilential scourges.

A voice of awful impressiveness has spoken and the nation has awaked from its fatal slumber. Health measures have already been inaugurated at the National Capitol, and let us hope they will be commensurate with the requirements of the occasion. In the successful issue of these measures every true physician must be deeply interested, and it behooves him to this end to give his unremitting aid and effort. With the purpose of invoking this aid and effort, I submit these remarks.

Perhaps the most important step in this departure and one destined to influence it in no small degree, was the promulgation of the theory, "That the matter which produces epidemic diseases, comes always from a parent stock." This theory seems of late years to have become the growing conviction of almost all scientific minds, in fact, it is well nigh become to be the established belief, that a specific disease must of necessity have for its origination a specific principle (germ). This principle, though we may be incapable of demonstrating it and able to recognize it only in its outward manifestations, is doubtless, nevertheless, invested with some of the properties of life ; those which most nearly concern us being the properties of growth and self propagation.

Now, if these germs are living entities and capable of originating certain diseases, it follows that the essence of the developed disease is the developed or perfected organism, the result of the germ ; otherwise, no perfected organism, no subsequent germ : therefore the

race of such organisms together with the diseases they produce would die out. Granted, these propositions, and we have the following formula: Given the living specific germ and the necessary conditions of its development; the resultant is, the developed specific disease.

Before proceeding further, I desire it to be understood that these remarks refer specially to the contagious and miasmatic contagious divisions of the infectious diseases after Liebermeister's definition; and further, that it is not my purpose to refer to each and all of them, but simply to use enough of the accumulative facts in regard to them, to answer my purpose in elucidating the subject before us.

First as to Germs:—That they vary materially as to characteristics and attributes must be apparent to every one. Every farmer knows the difficulty of preserving his seed potatoes for a longer period than one year, his cotton seed for a longer period than three years, while corn and other grain may be kept sound for a much longer period of time. A grain of wheat is said to have germinated after being kept in the hand of an Egyptian mummy for one thousand years. The seeds of noxious weeds will preserve themselves without any one's care against all manner of vicissitudes and spring up vigorously when the conditions favorable for their germination and growth present themselves. Again some plants furnish very much larger quantities of germs than others, and on this account have a very material advantage in the struggle of life. And so it must be with the germs of disease, some being capable of enduring much greater vicissitudes and some able to retain their vitality a much longer time than others. Biologists tell us they always come from a parent organism, that they are possessed of "long enduring dormant vitality" in contrast with the fleeting vitality of the perfected organism; that they are capable of enduring very low and very high degrees of temperature and that they are possessed of that singular attribute known as "variation" or "sporting" whereby one disease may be the sport from another as diphtheria from scarlet fever, and it does not seem unreasonable to assume they may be capable of hybridizing, very many familiar instances of which present themselves not only in the animal but in the vegetable kingdom. But germs of themselves, notwithstanding this array of troublesome attributes, are innocuous, and would remain dormant forever, if perpetually

divorced from their developing conditions which we will now briefly consider. These we may divide into two groups, viz. : the one pertaining to the contagious diseases, the other pertaining to the miasmatic contagious diseases.

In the first group we have the "bed" for germination and development of infective principle, (which for want of a better term we will call *individual susceptibility*) and the means of contact or communication, whereby the germs gain access to, or become planted in the bed. The other group comprises together with the conditions assigned to the first group, those extraneous or outside conditions embraced in the term "miasmatic," which are so numerous and in many instances so remote from apprehension as to preclude them from more than a mere suggestion as to their nature. But difficult as they are of being apprehended—as, for instance, those which perfect the diphtheria germ—they are none the less important, whether considered with reference to the part they play in the propagation of disease, or to the light, the study of them promises to throw on State Medicine. In illustration, let us take the yellow fever germ and bring it in the presence of the unprotected subject: here we have germ, susceptibility, and medium of impact, competent conditions in the production of the directly contagious diseases; but these alone seem insufficient in the case of yellow fever. They (the germs of yellow fever) must fall within a certain altitudinal limit, within a certain degree of temperature, in a certain density of population and probably within a certain degree of humidity, in order to "bear fruit an hundred fold." Again typhoid fever and diphtheria seem not to be influenced in their spread by any one of these outside conditions; they invade alike the crowded city and the sparsely settled country district, the mountain top and sea level. Sometimes prevailing in winter, sometimes in summer; at the same time they violate the most important laws of the directly contagious diseases, frequently attacking a single individual of a large number seemingly exposed and at other times arising as though spontaneously, in some out of the way place where it would seem there had been no possibility of importation of their germs. These inconsistencies perplexing as they appear are not altogether beyond the pale of reconciliation and will be referred to again presently.

We now approach an exceedingly interesting part of our subject,

but one beset with difficulties on every side. We turn again to germs, and inquire, 1st. At what stage of their development do they acquire the quality of being infectious? The rational answer to this question would seem to be, about the time of the subsidence of the disease that furnishes the germ, as it would seem probable that germs of whatever nature, for the most part, only acquire the quality of the reproductiveness after the subsidence of the process upon which their existence depends. But there are probably exceptions to this rule, as according to Niemeyer "measles is most infectious in the stage of eruption," and probably somewhat so even in the prodromal stage. Hydenreich's experiments with the blood of relapsing fever patients show that the blood is only infective during the paroxysm. The infection of small pox becomes active about the time the contents of the vesicles "begin to turn cloudy," but it is hardly probable the germs at this stage are migratory, the point of chief interest from the prophylactic side of the question. There are, no doubt, many other exceptions to this rule, which observation, may ere long find out and turn to useful account in our dealings with these disorders. 2d. How long do germs retain their power of self-propagation, when subjected to ordinary climatic vicissitudes, or in other words, how long a time should elapse after the subsidence of an epidemic, before it would be safe for unprotected persons to reside in such infected locality? Future observations must decide this question in regard to most of the infectious diseases. The yellow fever germ in our climate continues active until subjected to a temperature below 32° F. Koch in his splendid researches on the pathology of splenic fever found that the rods or perfected organisms of the bacillus anthracis "had only a comparative fugitive vitality; they lost their infective power generally in a few days, at the most, in about five weeks. But the spores retained their infective activity for an indefinite period in spite of all kinds of maltreatment. They could be reduced to dust, wetted and dried repeatedly, kept in putrefying liquids for weeks and yet at the end of four hours they still displayed an undiminished virulence." The germs of most of the eruptive fevers, although not influenced by ordinary variations of atmospheric temperature seem incapable of enduring outside exposure for any great length of time, probably a few weeks is sufficient to deprive them of their virility, while the infective principle of typhoid fever and diphtheria often

retain their latent vitality for a great length of time. For example, an unprotected person returning to a locality in which small-pox had been epidemic, but which had subsided a few weeks before, is not in much danger of contracting the disease, provided he is careful to avoid such places and things as afford protection or shelter to the germs. Whereas, typhoid fever and diphtheria once gaining foothold in a community may continue indefinitely liable to infect the inhabitants though the outbreaks be at very considerable intervals of time. 3d. What are the favoring conditions for the preservation or prolongation of the activity of germs? To begin, we find protective material in abundance about the apartments of the patient; his clothing from hat to boots, his boxes, trunks, drawers, books, toys, carpets, wall-paper, etc. It is well known that the clothing of a small pox patient may be put into a box from which air or moisture are excluded, and the germs contained therein preserved in all their virulence for years. A crust of vaccine virus sealed in a flask from which septic bacteria are excluded will retain its power of communicating cow-pox almost indefinitely, whereas, when exposed to the atmosphere, and particularly a moist atmosphere it will lose this power in a few days or weeks. In scarlet fever it is probable the shedding epithelium is preservative and in some diseases as typhoid fever, epidemic dysentery, cholera, yellow fever, the dejecta, vomited matters, etc. Water is probably protective to the infective matters of typhoid fever and by many is believed to be the principal carrier of the contagion. An interesting account of an epidemic of typhoid fever published some years ago in the *London Lancet* traced its origin to a pasture that had been manured with sewer products. The milk cows supplying a certain dairy were grazed on this pasture, from this dairy it was found all the fever patients had used the milk, while persons living in the same district who did not use it escaped the disease.

Dr. Folsom, (State Board of Health, Massachusetts, 1876,) quoting Dr. Mapother, of Dublin, says: "Forty cases of typhoid fever occurred in a hospital which received its water supply from a river. The cause was traced to some barracks twenty-five miles higher up, from which typhoidal dejections had been emptied through drains into the river." The protective influence of sewerage has been well demonstrated by the English Rivers Pollution



Commission, which reports after careful and ingenious experimental investigation, "It is thus evident that so far from sewage mixed with twenty times its volume of water being oxydized during a flow of ten or twelve miles (as taught by Dr. Letheby) scarcely two-thirds of it would be so destroyed in a flow of one hundred and sixty-eight miles at the rate of one mile per hour or after the lapse of a week." But the conditions, par excellence, for the preservation of the dormant vitality of germs are to be found in our manner of disposing of the bodies of those who have died of infectious diseases. During the lifetime of the patient, we may have been assiduous in our employment of disinfectants and parasiticides, we may have kept the atmosphere of his room in such condition that it was impossible for infective matter to have retained its virulence for one hour, but what do we do with his body after death? Teeming with myriads of germs we consign it to mother earth from which we get all our food and drink and through which circulates, according to Pettenkofer, a large proportion of the air we breathe. In the language of the farmer we "house" these germs carefully protecting them by means of metallic cases, etc., from the natural agents of their destruction. Thus entrenched, they are secure to go forth, when the occasion offers, on their mission of death and dismay. When this death dealing influence may subside no man can tell. "The plague is said to have broken out a fresh after a hundred years in consequence of the reöpening of a plague pit," and who would venture to deny that the germs of yellow fever, of typhoid fever, of diphtheria, and others, may be capable of retaining, when thus protected, their disease—producing characteristics for years and years, ready, when no man is suspecting, to spring into terrible virulence upon presentation of their necessary conditions! In the *Fragments of Science*, Professor Tyndall reminds us that Dr. Starr, of Liskeard, about the year 1758 described diphtheria under the name of morbus strangulatorius "as then severely epidemic in Cornwall. This fact is the more interesting, as diphtheria in its more modern reäppearance again showed predilection for that remote country."

We are now ready, it seems to me, with the explanation of the apparent inconsistency of the doctrine, that a disease, whose origin must be invariably from a germ furnished by a parent organism,

may originate, nevertheless, without the necessity of importation. When I say importation, I wish to be understood to apply the word in the sense it is generally used in this connection, and to imply that the source from which importation is effected, is traceable. For my purpose we require germs capable of retaining for a long time their vitality in a dormant state, and such protection as would appear to be afforded them by the burying process. It is no great stretch of the imagination to see, so to speak, the ultramicroscopic germ, which may have been buried by a preceding generation, lashed by the passing current of air or water—one or other of which is in constant circulation round about it—until teased from its moorings, it floats out on the tide, and conveyed by means of the air we breathe or the water we drink or the food we eat, it lodges in the lungs or stomach of the susceptible individual, from whence it gains access to the blood, there to enter upon the mysterious processes of incubation, maturation, etc., which end at last in those manifestations which are to declare the spontaneous outbreak of an epidemic disease.

If we can accept this explanation there is no longer any reason for surprise at so-called spontaneous outbreaks of contagious diseases. The expression may be construed to imply that germs long dormant, perhaps, furnished by past generations, have worked their way through opposing media and joined the conditions necessary to the development of their power of self multiplication and reproduction, and hence the resultant disease.

The law of variation or sporting may also have a share in this explanation. My friend, Dr. W. R. Wilson, some time ago related to me an instance that came under his observation which is singularly suggestive: The father of a family left home a few days after the confinement of the mother—father, mother and all in good health. Three or four days after leaving home, during which time he was traveling through the country, he was seized with a severe erysipelas from which he barely escaped with his life. During the first week of his illness he received intelligence of the death of his wife from puerperal fever. Within three weeks from the time of this gentleman's seizure and at the house where he was confined, three cases of diphtheria occurred. Dr. Wilson believes that all these cases originated from the same source of infection.

In disarrangement of susceptibility and in disarrangement of extraneous conditions, may be found the explanation of the difficulty of understanding why these diseases may attack a single individual of a large community exposed. Extraneous conditions, like susceptibility, may be exhausted in some instances and consequently necessitate a break in the spread of the disease until they can be renewed.

Our study of susceptibility brings us in the presence of some very remarkable facts which bear on the subject under consideration. Dr. Roberts says: "There is nothing in all nature more wonderful than the intricate and subtle nexus which unites a parasite to its host. A hundred examples might be given. Even different varieties or races of the same species have different and exclusive parasites. It would seem as if nexus depended on some delicate shade—a *nuance*—something like an odor or savor, or a color rather than on differences of structure or chemical composition. The same minute correlation is seen in specific contagia, all are strictly confined to one or a few species. *Vaccinia* is confined to man, the horse and the cow: scarlet fever is confined to man, and, perhaps, the swine; most of our specific diseases are absolutely confined to man. The human and ovine small pox, although so wonderfully similar, are not intercommunicable." The Chinese and the negro seem to have little or no susceptibility to the infection of yellow fever, and the Chinese is said to be almost free from susceptibility to diphtheria. We are all familiar with the influence age exerts on susceptibility to some of the infectious diseases. More wonderful than all is that immunity conferred on the subject, by a previous attack of some of these diseases. To bring an unprotected person within the influence of the contagion of measles, is to subject him to the probability of an attack of the disease; while a protected person, which means one who has suffered a previous attack, is safe from a subsequent attack, though his power of resistance of ordinary morbid influences may have been reduced to the lowest ebb by previous disease, by starvation, etc. Now it is evident, though we cannot appreciate the change that has taken place in such a person, that a most important change has been wrought upon the molecular constituents of his body, and that these molecules are endowed with the power of transmitting this protective influence to the succeeding

colonies of molecules which come to take their places in the economy—"like changing sentinels, (the atoms) that depart, seem to whisper their secret to their comrades that arrive." Thus, an attack of such disease contracted during infancy is competent to protect the organism from a repeated attack, during the whole life time of the individual. But this protective influence is not transmissible, for the children of protected parents are as liable to the ravages of the disease, as the children of parents who have not been so protected. This, we cannot but wish had been otherwise; but it does seem a great hardship to a large proportion of the human race, that the molecular change wrought by syphilis in the organism and which entails this disease upon the children of syphilitic parents, has not been made subject to a similar law, that by such reversal of the order of things, these children might be left an equal chance in the struggle of life, with those of non-syphilitic parents. Now, it is folly for me to insist in this presence, that immunity from contagion is the result of an important change that has taken place in the system in the one instance, or of a very singular variation of the usual susceptibility in another instance, the rationale of which so far as successfully eluded the human understanding. But let us hope it will not continue to be "past-finding out." For one, I believe there is no limit to the possibilities of progress, and I confidently look to the future for the accomplishment of the task of opening up to our understanding this most difficult of difficult problems. The value of such accomplishment to the department of preventive medicine, beggars computation. Could we but understand and control susceptibility to disease; germs would be shorn of all their terrors, they would, indeed, fall "by the wayside" and be "trodden down."

In our study of extraneous or outside conditions we are to take into consideration the "great chapters of air, clothing, dwelling, ventilation, heating, lighting, building-places and soil, their relation to air and water and their influence on the course of disease, drinking water sources of its contamination and its distribution among the population, alimentation and food, the maintaining of different classes of men under different circumstances, the collection and removal of excrementitious matter, and refuse from households and trades, drainage;" dead bodies, their inspection with

reference to the manner in which they should be disposed of: unhealthy trades and manufactories; schools, barracks, prisons, asylums, hospitals, etc.; contour of the earth's surface with respect to its undulations; forests, their influence on climate and on the spread of infectious diseases; race, nationality, heredity temperament and idiosyncrasy; age, occupation, customs; increment of population with respect to its tendency to pollution of streams and destruction of forests; agencies instrumental to the importation of infectious matter, and all other agencies and perturbations which furnish media for the propagation and transmission of disease, and which tend to lessen the power of resistance to ordinary morbid influences. This mere glimpse into this domain of science, though but an earnest of the immense work the future has in store for the representatives of preventive medicine, is as much as the intended limits of this paper will allow just here; in another place an example will be introduced to illustrate and give more definite shape to these vague and general suggestions.

You are now, doubtless, ready with the inquiry, what good is to come out of all this talk about conditions essential to the propagation of infectious diseases? What useful lesson is it expected to teach?

Turning to our summary of these conditions, we find we have to deal with, 1st. Living germs; 2d. Susceptibility; 3d. Media of communication; and, 4th. Outside or extraneous conditions. If we are satisfied these are the terms and the only terms upon which infectious diseases have their existence, the practical lesson taught by inquiry into their nature is, that to arrest and prevent the spread of such diseases, our efforts must be, to destroy germs or deprive them of their virility, to abolish or modify susceptibility, to neutralize media of communication, and to diminish the fertilizing power of outside conditions.

For guidance as to *how* this is to be done, we are obliged for the most part to look beyond the present to that future which holds out the promise of enlightenment to those who patiently and perseveringly dig into the mines of its hidden treasures. Faint glimpses occasionally visit us which foreshadow the great wealth of those mines, but let us not be too hasty in our interpretation of them, or in fixing their value; for instance, we have heretofore thought yellow fever

germs were invariably destroyed when subjected to a temperature below 32° F. ; and upon this supposition the government has appropriated funds for building a refrigerator to be used with the purpose of destroying them ; but recent disclosures from the U. S. Steamer Plymouth necessitates a more cautious acceptance of this doctrine. Very high temperature is destructive of all germs. This being true, have we not a great resource in *cremation of the bodies of those who die of contagious diseases?* Here we have in a compact bundle, myriads of germs in our power without the possibility of their escape ; and if there were no other grounds than these upon which to base its claims, they alone are sufficient to give to cremation a prominent place among the measures potent in the arrest and prevention of these diseases.

In regard to the various drugs used for the destruction of parasites, although I do not feel willing to ignore them, I have no convictions to urge. True, if we have only a box of clothes, or a close room, or the hold of a vessel to disinfect the task does not seem so great, but when our undertaking is with the whole outside atmosphere, a difficulty confronts us, which, with our present appliances, seems altogether insurmountable.

Of susceptibility, I can only refer to the great work of the immortal Jenner, who well nigh robbed small pox of its terrors, and whose example should ever serve as our incentive to press on in the direction he has pointed out to us. There may be a slight gleam of light on this subject from the antagonism of diseases, as, for example, the antagonism of emphysema to phthisis. I would here remind you of the supposed antagonism of measles to diphtheria, as suggested by Dr. McCormack in a letter to Dr. Grissom, which was read in this hall on day before yesterday.

Lister's method probably furnishes our best guide post on the way of our duty in medium of communication. He simply erects a barrier between septic germs and the bed in which they delight to grow ; his efforts to destroy germs, go no further than to fight off those which threaten to invade, while he is engaged in the erection of his barrier. The various respirators which have been suggested, even if they accomplished their purpose are only operative against atmospheric communication ; whereas, the great channels of food and drink are left open for the ingress of germs. "A thin board

partition seems to have stopped (yellow fever) on Governor's Island in 1856," and the city of Newbern furnishes an instance of a family of ladies escaping the disease by residing persistently on the third floor of their dwelling during the prevalence of yellow fever which visited us in 1864. These ladies inform me, their mother made a similar escape during the epidemic of 1811.

But probably the most reliable barrier we can put between germs and susceptibility, is distance, which should be sufficiently great to insure against the possibility of infectious contact. This is imperative for two important reasons. 1st. That we may deprive the contagion of material through which it may spread and thereby reach distant communities. 2d, for the preservation of those of the infected community, who may not already have contracted the disease, and who could only escape by being sent away from such infected district. Akin to this barrier, is that attempted to be supplied by the various systems of quarantine which probably furnish our most available means of protection against most of the contagious diseases.

In extraneous conditions, while a most important work, in order to make any systematic inroads upon them, would be to put together into groups such as appear to be essential to supply the necessary virulence to a given germ, whereby it gains the power of migration and self-propagation, (e. g. yellow fever group, temperature, moisture, altitudes, crowd) and then deal with each group specifically, I shall be compelled in our paucity of data to recommend the simpler method of considering them under the one comprehensive group of local conditions, assigning to each member of which, its supposed importance as a factor in the diseases under consideration. As it is impracticable here, to attempt anything like a comprehensive treatise of the subject, I beg to submit in illustration of my plan a single head of this group, viz. : *increment of population* and its sanitary application, with the exhortation, *Ab uno disce omnes.*

From increment of population we infer crowd, destruction of forests, pollution of streams, and other sources of water supply, etc. It is evident we cannot too early give direction to our efforts to counteract the absolutely certain tendency to growth of these conditions as a consequence of increase of population. Crowd is

essential to the spread of almost all the infectious diseases, and as it cannot be prevented, it will require the exercise of all our ingenuity to divest it, as far as may be of its baleful influences. To this end our care should be to secure pure air and water, wholesome food; in a word, to secure the best possible hygienic surroundings compatible with locality, etc. It is needless to remind you of the part our forests play in the economy of nature, their necessity to the perfection of animal life, their effects upon climate, their influence on the spread of epidemics. Steadily and rapidly they are disappearing before the march of population.

We cannot too soon determine how much more of them we can spare, and raise our voices against their reckless waste and destruction. Again, the pollution of streams and other sources of water supply, is the inevitable consequence of increment of population, provided, we do not alter our present system of disposing of garbage, sewage, etc. If we are to "take, therefore, no thought of the morrow" with regard to these matters, it does not require any great acuteness of prevision, to see our posterity a few generations in the future burdened beyond endurance, with these, our sins of omission and commission; and to him whose ears are deaf to the warnings that go up now and then from the English Rivers Pollution Commissions and from other sanitary commissions, may come the self-accusation, "*In me all posterity stands cursed.*" The word prevention implies *timely* action, we have no time to lose. These agents of our destruction may work silently, but they work incessantly; even their periods of repose, may be but periods in which they gather increased strength and force to renew their desperate work of death and dismay.

Let us organize and set about our preparations for defence against these death-dealing agencies. Our work is to strive to make ourselves acquainted with all their mysteries and intricacies, to extort from them their secret methods, which can be done only by diligence and perseverance. To us, is specially delegated the privilege to lead and direct in this great movement. To us, belongs the task of arousing the public, indifferent because of their occupation with other matters, to a sense of the danger that encompass them. Upon us rests the task of their education and enlightenment, to the end that they fulfill creditably, the part in the work, that of necessity belongs to them.



Byron has beautifully said "Words are things ; and a small drop of ink falling like dew upon a thought, produces that which makes thousands, perhaps, millions, think." How great my recompense could I but feel, that imprisoned here among these drops of ink, were one incarnate thought with which to break the recusant silence that hangs around the mysterious confines of my subject !

And now, gentlemen, I bid adieu to the exalted position your partiality bestowed upon me. At no time since the beginning of my administration have I been devoid of the sense of my great responsibility ; at no time have I been free from a distrust of my ability to fulfill acceptably its requirements. In these, your never varying kindness to me on all occasions has been my stay and support ; for this kindness and for your generous patience with me on this occasion, I return my heartfelt thanks.

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## ROTATION OF THE HEAD WITHIN THE BLADES OF THE FORCEPS.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

By T. D. HAIGH, M. D., Fayetteville, N. C.

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Having, some years ago observed, in the first case in which I found it necessary to apply the forceps at the superior strait, that rotation took place within the blades of the forceps, I was led to investigate more fully the whole subject.

In this case I had applied the blades, I certainly thought, to the occipito-frontal diameter and when the child was delivered to my surprise the forceps were applied to the parietal surfaces. An examination proved that my diagnosis of presentation was correct, and that the forceps had been applied originally, just behind the ear posteriorly and over the brow anteriorly, for the marks of the forceps were perfectly plain at both points. How then, and when did the change of position occur ?

I remembered that after I had succeeded in overcoming the resistance at the superior strait and the head was advancing under

traction, (the uterus now contracting efficiently), there was an inclination of the blades to twist and separate from below—above. Fearing the forceps might slip, I readjusted them, and making only the slightest traction without any forcible compression, allowed the expulsive efforts to go on with very little aid : very soon there was less tendency to separation of the blades, and resuming more generous traction, the child was delivered without further difficulty. Undoubtedly, I reasoned, here was the point of change, the head rotating within the blades, while I was looking for rotation of head and forceps together.

It rarely occurs to a practitioner in a town of 5,000 inhabitants to meet with more than one case where the forceps have to be applied at the superior strait.

Dewees in an experience of 40 years only met with six cases. In truth, in his day it was considered an exceedingly dangerous operation. Even Prof. Meigs contends against the application unless the head has descended well within the bones of the pelvis, “since (he says) the forceps is designed for the side of the head,” p. 531, “a man can hardly be justified who inserts his forceps within the os uteri,” which, of course he will have to do at the superior strait, and, as a general rule, at the inferior strait as he virtually acknowledges, for he and other writers on the subject are exceedingly careful in giving special directions to guard the os with one hand while passing the blades, lest they thrust the blades through the vaginal cul de sac. Under these impressions, of course, Meigs says nothing of rotation within the blades.

Ramsbotham speaks more in accordance with the present ideas in regard to the application of the forceps: “the application must be made in the axis of the strait along the sides of the pelvis—but *after the head has passed down*, and then, if needs be, substitute the short forceps, i. e., if rotation has been prevented by too powerful compression, remove the long forceps and while you are getting ready to apply the short ones, rotation will, in all probability, have taken place so that the short forceps (or the long ones either for that matter) can be applied to the parietal bones. He, however, says nothing of rotation within the blades.

I have consulted the works of Dewees, Doane, Cazeaux, Chailly, Churchill, Bedford, in fact, all the works in my limited bounds and

find nothing except in Velpeau and Leishman's on this subject. Velpeau speaks of it incidentally as a *possibility*, thus: "If the head having been seized by the occipito-frontal diameter has not, while descending *rotated within the clamps of the instrument* it must be abandoned at the inferior strait and be taken hold of more advantageously should the forceps still be needed;" very much the same idea as that quoted from Ramsbotham, though Ramsbotham does not speak of the rotation as possible.

Dr. J. L. Pary in a bracket note in Leishman quotes Dr. W. F. Jenks: "The great advantage which results from an instrument intended only to supplement a deficient vis a tergo is that the mechanism of labor, *can* and *does* in most cases, when the contraction is not too great, proceed undisturbed, the head rotating anteriorly inside the blades." He then proceeds to show from Brown, Hope, Scanzoni and Schneider, that there can be no disputing the fact, that rotation does occur within the blades.

It is rather singular that so few of our writers have noticed this change within the blades, and then have made no practical deduction from it. The general idea is that it is accidental, and outside and beyond the control of the operator, and therefore to be observed—not to be used. But why should not this rotation occur in every instance where the obstacle at the superior strait has been overcome and where the uterus has been incited to action by the stimulus of relief? Certainly if it can be accomplished then, one of the chief objections to the application of the forceps at the superior strait will have been overcome.

I have mentioned in the first part of this paper that my first case calling for the use of the forceps at the superior strait resulted in rotation within the blades, to my utter astonishment, the head could not pass down because of diminished antero-posterior capacity, and the woman had been in labor 48 hours when I saw her. It was her first child. Both mother and child did well.

The second case which came under my care was that of a woman who, in three successive labors, had been delivered by craniotomy after the uterine contractions had ceased entirely in each case.

This then was her fourth labor. I applied the forceps to the occipito-frontal diameter of the head and determined to test my preconceived idea that rotation would always occur in these cases when the

obstacle to the progress of the head had been overcome, provided the forceps were used only as a traction, and no compression used. My success was complete, the head rotated and the woman was delivered of a living child, and both did well. The third case occurred in the same woman with precisely the same results, at the expiration of two years, second child delivered alive, and mother and children are well at this day.

The discussion of this subject opens up a wide field, especially in the direction of the general use and mode of application of the forceps. Discussion always brings to light facts, and facts are worth all the theories in the world. It has been objected by some with whom I have conversed on this rotation within the blades, that if the uterus had sufficient power to complete rotation, then there was no further need for the forceps. While this may possibly be so, he would be a very unwise accoucheur who would relinquish the advantage of complete control, for an uncertainty, where there was no advantage to be gained by so doing, and this, especially in a case already exhausted by long continued exertion.

My idea then is, that the forceps in these cases should not be allowed to *hinder rotation* by compression, and further, that nothing but *passive* traction should be used while rotation is taking place, and then we can complete delivery as speedily as circumstances may demand. If the general theories of the causes of rotation are correct, the forceps are from this very conformation, of the greatest assistance in facilitating it. It has occurred, I suppose, to every one to have met with instances when the forceps seemed to be a necessity, to find the rotation suddenly completed upon the application of one blade alone, it having presented a better surface for the change than the natural curve of the pelvis. And, also, every one accustomed to instruments has observed how partial rotation nearly always takes place where the instruments are applied when rotation is nearly complete—the blades advancing up towards the pubic arch and slipping to the parietal surfaces as the change is completed. The more *useful* we make the forceps the *less* will be the *public prejudice* against them. Their judicious use is already overcoming this prejudice and saving many lives.

## EXCISION OF THE EYE.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 21, 1879.

By THOMAS J. MOORE, M. D., Charlotte, N. C.

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In the following case, to which I desire to call the attention of the members of this Society, I do not propose to offer anything novel in the manner of operating, but, by showing the condition of the eye which rendered an operation necessary, I present yet another instance of the correctness of the views expressed by Professor Chisolmi, of Baltimore.

J. J. P., aged 15, came under my care on the 2d of February, 1879, suffering with acute inflammation of the eye, owing to a gunshot injury sustained on the 28th of December, 1878. Upon that day he went out hunting with some young companions, and while hidden from view, he suddenly flushed a covey of birds; one of the party discovering them in flight, fired, and J. J. P., was struck by two large sized bird shot. One struck him upon the side of the face near the temple, but did not penetrate the flesh; the other entered the right eye, penetrating the eye upon the left side at the sclero-corneal junction, in transverse mesian line, thence penetrating the iris on the same side.

From the most careful inquiries, I believe the following to be an accurate history of the case, previous to the time it came under my care:

Four days after the injury, inflammation set in, which produced pain, photophobia, lachrymation, with great redness of the orbital and palpebral conjunctiva. After poulticing for ten days with flax seed, the inflammation subsided (during this time the other eye appeared irritated, but there was no decided inflammation). After the subsidence of the inflammation the patient was attacked with parotiditis (mumps), from which he recovered in a few days. Upon the 18th of January, 1879, inflammation again set in and continued until the 2d of February, when the patient was brought to me for treatment.

At the time I examined him I found the shot had penetrated as above described, though it was impossible to discover how much

further it had gone, as neither the lens nor any of the posterior portion of the eye appeared to be in any way disturbed. The rent in the iris which extended through the entire left half of same, was very apparent; the scar at the sclero corneal junction could be observed, the aqueous humor was slightly clouded, the conjunctiva reddened, though I did not consider the inflammation intense. The eye was totally deprived of sight; the left eye was neither inflamed nor apparently affected.

The advice given by Dr. Chisolm in his article "Upon the course that should be pursued with an eye lost through accident," p. 5, is as follows :

"Should a foreign body inflict the injury, and remain embedded in the eye ball, the necessity for immediate removal of the eye, becomes even more imperative, as the presence of the foreign body (usually a piece of metal) makes the future suffering more certain." Again, upon the same page "When an injured and lost eye has been removed, the operation gives perfect protection to the good eye, which has not yet experienced any serious inflammatory attacks." "Until the injured and lost eye has been enucleated, there is no positive safety for the remaining one.

Recognizing the soundness of the views of the distinguished gentleman above referred to, I determined to operate at once. The patient was placed under the influence of chloroform and the operation first devised by Bonnet and O'Ferral in 1841, and introduced in London by Crichton in 1851 was determined upon. Fixing the lids with the stop speculum, and seizing the eye with a pair of forceps, I divided, with a pair of curved scissors, the conjunctiva around the cornea near the margin of same. Separating the conjunctiva by dissection from the sclerotic sufficiently to enable me to get in a strabismus hook, I divided in succession the four recti muscles, as near as possible to their insertion into the sclerotic. Commencing with the internal rectus, pressing upon the ball and forcing it partially through the opening in the conjunctiva. I divided the two oblique muscles, and, then seizing the eye upon the outside with the fingers, I drew it forward and inward, passed the curved scissors in behind, and cut the artery and nerve as close to the ball as possible. There was no hemorrhage and none of the precautions which have usually to be resorted to were

required. Owing to the inflammation, I determined not to bring the edges of the conjunctiva together with sutures; but to allow natural contraction and adaptation to supply their want. Upon examining the eye, the shot was found embedded in the centre of the optic nerve just as it penetrates the sclerotic coat, and the shot was partially clipped by the scissors in cutting through the nerve. I have a part of the sclerotic coat and the section of the nerve with the flattened shot embedded in same, preserved in alcohol; which I present for inspection. In two weeks the conjunctiva was entirely healed, and nine weeks afterwards—an artificial eye was inserted which rests upon the cushion formed by the conjunctiva, and, as the muscles of the eye were all preserved, the motion of the artificial eye is perfect. As I have previously stated this case corroborates the views of Dr. Chisolm, and shows the importance of excision when a foreign body has penetrated the eye and remains therein embedded, whether the eye appears to be markedly inflamed or not, for, in time, it will become so, causing loss of sight, and the site of the other eye will almost invariably follow in its wake. If this eye had been permitted to remain, I cannot see how the patient could have avoided painful and persistent neuralgia, which in the end would have produced destructive sympathetic inflammation in the other eye, as well as rendered the life of the patient intolerable.

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## ECLAMPSIA GRAVIDARUM.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

Reported by W. C. McDuffie, M. D., Fayetteville, N. C.

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On the 10th of April, 1879, I was called about 5 o'clock P. M., to see Miss A. L. R., an unmarried girl, aged 17, 7 months advanced in pregnancy. She was very short and compact in build, and of former robust health, except for the last few months she had been greatly depressed; however, there appeared to be no warning of the

approaching storm. I was informed that she had suffered all that day with excruciating pain in the head and in the region of the liver, the skin was hot and dry, pulse over one hundred, the tissues were puffy and the limbs much swollen; I wrote a prescription for her, and left directions; but before the medicine was administered, I was resummoned with the message that she was dying; immediately upon reaching the bed-side, I saw the last symptoms of a convulsion passing off. I was informed by the nurse that she was sitting up in bed but a few minutes before in the act of taking a cup of tea, when she was seized with a convulsion, which lasted several minutes, and another more violent than the first had just passed off. My first impulse was to bleed her, but the circumstances surrounding were anything but favorable for reaching a vein; scarcely any light: at least, but a small piece of tallow candle. The arms not only rigid from the spasm, but greatly swollen. I therefore determined to depend upon the chloral hydrate for the present, at least, I hastily prepared an injection containing 48 grains, but even before this could be administered, another most terrific convulsion came on, which was the third. I succeeded, without assistance, (for the nurse had fled in dismay) to give the enema containing the above quantity, and it was well retained. I turned her on the left side and for some ten or fifteen minutes kept her in that position, when another slight spasm came, but passed off sooner than the others. I still kept her in the same position; she remained quiet one hour, when she became partially conscious; could understand what was said to her. I gave her, by the mouth, thirty grains of chloral; there was much difficulty in swallowing, as the tongue was severely lacerated. From this time she slept six hours, I remained by her, and when she awoke, in only a partial state of consciousness, I gave her another dose like the last. Again she was quiet and when I left I gave directions to repeat the dose at the next awaking, but I returned in six hours and did not then repeat it, gave her a little milk gruel and as she was disposed to rest, I waited until a later period to give the chloral. At this time the swollen tongue prevented distinct articulation, but the intellect was clear enough to comprehend what was said directly to her. The color of the skin was better, the pulse regular; and free and unobstructed action of the heart—no pain other than a great heaviness in the head and blindness upon attempting to raise up in bed.



Before stating the subsequent treatment, I will state that as soon as I could do so, upon my visit the night before, I examined the os uteri, there was no disturbance there, none in the least, and from long and close personal observation, I was satisfied that she was not for one moment experiencing uterine contraction, and had not at any time before the attack.

I now gave her a full dose of compound powder of jalap, which acted freely in three hours. While I would have hailed a rapid delivery at the first, with joy, yet I did not feel justified in proceeding to measures to bring it about, for really at the outset I had all I could do; so I decided that it was safer to battle with the ills I had, than to encounter, perhaps, another series of fits which I thought likely to follow the parturient effort. With this resolution I determined to keep up the use of the chloral hydrate at longer intervals and begin at the same time the use of diuretics. After the action of the hydragogue cathartic before named I gave full doses of acetate potash and digitalis; and that the nervous and vital energies might not only be supported but promoted, and the tonicity of the capillaries and the tissues generally increased, I gave tincture of iron.

The urine passed twelve hours after the last convulsion was the first examined. It was dark, thick and very scant, by the usual tests for albumen it showed a very large amount present, indeed, it was almost *solid albumen* upon the application of heat or nitric acid. Not increasing sufficiently in quantity, and fearing the worst eventually, I determined to give Frerichs' suggestion a fair trial in this case, I allude to benzoic acid. I gave 20 grains (made soluble by an equal quantity of biborate of soda), every six hours until six or eight doses were given. Frerichs says:

“This acts by arresting the poisonous effects of the ammonia, which results from decomposition of urea in the system.”

“That it is this subsequent decomposition that produces the bad effects upon the brain through the blood,” and that it is not the mere fact of urea being in the blood: that is, if the neutralization of the ammonia can be effected, we need not dread the consequences of urea in excess in the system. Therefore, it is recommended as a chemical reagent and is only serviceable while we are giving it, and until diuretics can be made available. Upon this theory I gave

it, and it may have done good. I pushed the diuretics, acetate potash and digitalis to the fullest extent. The acetate acting too freely on the bowels (as it will do in such large doses) I withheld it, but continued the digitalis, at the same time giving iron. By the fourth day the increase in the flow of urine was pretty well established, still the analysis made every day, showed but little improvement in its character.

With the assistance of the microscope, I could detect no blood corpuscles, but did see some epithelial cells, resembling pus corpuscles, these I only found the first day. The anasarea gradually left the patient, the urine becoming more normal in quantity, but still containing albumen. There was no motion of the fœtus at any time *after* the convulsions, and just one month from the time of the first seizure, that is, May 15th, uterine contractions began spontaneously, and continued with gradually increasing force for ten hours, when a dead, and partially decomposed child was expelled, having the appearance of a seven months growth arrested. The placenta was removed without trouble and the amount of hemorrhage insignificant. The lochia continued with gradual diminution, was quite offensive at first, but the daily use of Labarraque's solution prevented any great unpleasantness. She is now, I consider, well.

There was no symptom of spasms, no congestion about the head, nor pain, nor any manifestation of even nervous irritability during the ten hours of labor.

The above case illustrates *the power of chloral hydrate in puerperal eclampsia*, how far does the subsequent treatment illuminate the pathology of this disease? or, did the subsequent treatment have anything to do with the prevention of convulsions at the time of the labor? I have never been one to resort quickly to, or rely much upon, what is called experimental therapeutics, but this was a case that appeared to me justifying the risk, and if it be true, that the true pathology of puerperal eclampsia is decomposition of the constituent elements of the urine, and that this composition can and does take place in the system, why doubt the benefits that might be derived from the application of chemistry to practical medicine? This disease is one of such a fearful character; indeed, it has been well said, "that no other accident incident to the par-

turient woman (save, perhaps, rupture of the womb) is so much to be dreaded" that we may be excused, if in such an emergency, we resort to more than one mode of treatment, even at the same time. We are so accustomed to rely upon the kidneys to assist in the removal of poisonous matters from the system and we know that the kidneys can depurate the blood not only, of matters regarded as the constituents of the urine, but also, of compounds excreted by other glands; hence we so often resort to diuretics; but when we encounter an almost downright refusal of the kidneys to properly eliminate deleterious compounds from the system, and sometimes increase the flow of urine by the best diuretics, we may well, in such a dilemma, resort to some chemical agent, (for the time at least) that will neutralize the noxious element.

If this be the true pathology, the treatment is sound. Upon this, however, I have my misgivings. Since this case has been in hand I have given the subject some thought and looked up some of the recent literature of the disease, and while I heretofore relied pretty much upon the theory that it resulted from mechanical pressure upon the renal vessels first, then congestion from obstruction, then alteration in the elimination, and, of course, toxemia, yet Barnes' theory is rather more to my liking, also, Atwater's "emotional causes." I am half inclined to the belief that the disease is of nervous origin. There is much diversity of opinion amongst recent writers upon this subject. Atwater, of Vermont, in the last number of the *American Journal of Obstetrics* says: "in 1000 cases of midwifery noted in private practice, there were 12 cases of eclampsia—4 before delivery, 3 during delivery, and 5 after delivery. Four of the 12, I believe, he says were *illegitimate pregnancies*." This would show one third of the whole of the eclampsia cases to be illegitimate. He attributes this large proportion to emotional causes. Of this, I am unable to speak from personal experience, as I have kept no record of this variety of convulsions.

We must all make our estimates from the experience of others combined, for fortunately one practitioner sees comparatively few cases in his whole life time practice.

A recent author says: "that in European practice only one case of eclampsia occurs in 350 cases of obstetrics." this means, I suppose,

at the time of delivery, and does not include the cases that occur before and after the parturient period, and if so, it accords very nearly with the experience of American practitioners, when notes are kept as in Professor Atwater's article. There he only had three during parturition which is one in 350, and the proportion before and after will, no doubt, hold good everywhere, or a little over one in one hundred. I am not prepared to go as far as this author in attributing eclampsia to emotional causes alone, or, at least, in believing that illegitimacy has so much to do in producing it, yet he argues well when he says: "That the nerve centres at this period are in a state of exalted irritability and sensibility, there is shame, fear of exposure, and solitary brooding, these strain, beyond control the nervous system which is already partly exhausted by the demands of pregnancy." "When wholesome control and balance are lost" he says, "convulsions ensue." He might have added unremitting anxiety as another emotional strain and this applies as well to legitimate pregnancies as to illegitimate.

Leishman rather favors Dr. Barnes' views as to the origin of eclampsia. He gives strong reason for these views. I have not time in this short article to quote him at any length, but will adduce a few negative reasons as I think to explain away the old theory of albuminuria. 1st. We know how often we find albuminuria connected with such specific diseases as scarlatina, diphtheria, &c., without convulsing, and 2d. It has been shown that it exists in probably as high as 30 per cent. of pregnant women, without convulsions, and 3d. In "Bright's disease" proper, we do not necessarily have convulsions. Again there has been a large increase in the percentage of recoveries since the use of anæsthetics has been adopted so largely by the profession, I state this upon the authority of Leishman, and from the success I have had in every case—true not many—with chloral hydrate. Since its addition to the materia medica, it has fulfilled in my hands, my utmost expectations.

One word upon the supposition that uterine contraction has an important share in this fearful trouble. The argument in favor of this, is clearly of but little force, when we consider the number who have convulsions during pregnancy and after delivery, and as was shown in this recent case here reported where there was not the

slightest disturbance in the uterine fibres, no appearance of reflex sensibility when the os was subjected to a digital examination.

Altogether, I see but little relation between uterine contraction and eclampsia; finally I am inclined to agree with those who believe that "the *nervous* system, and not the vascular, may, after all, be the starting point of puerperal eclampsia."

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### THREE CASES CONGENITAL PHIMOSIS AND ADHERED PREPUCE.

Reported by I. WELLINGTON FAISON, M. D., Fulton, N. C., to the Medical Society of North Carolina at Greensborough, N. C., May 22, 1879.

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Case 1.—Felix H., aged 18 months; was brought to my office July 3d, 1878, by his mother. His general health seemed to be good. His mother stated that for two months she had not had a good night's rest for the screams and wild cries of her little boy at intervals during every night; but that in a few minutes on becoming calm he would readily return to his sleep.

A month before I saw the boy, she said she noticed that he had grown very clumsy and was troubled a great deal about passing his water. The weakness in the joints and relaxation of muscles continued slowly until he could scarcely go at all. Being earnestly taught and eagerly insisted upon by my celebrated and learned teacher, Professor Lewis A. Sayre, of New York, never to allow a case of this nature to pass without examining at once the penis, I proceeded to examine that organ, and on slightly touching the prepuce, instantaneously an orgasm of the whole system was produced. I advised circumcision as the surest and most speedy remedy.

July 4th. I called and performed circumcision after Prof. Sayre's method, as follows: I pulled the prepuce forward and clamped it with Atlee's cervical dilator, having nothing better to hand, then with one sweep with scalpel diagonally from above, downwards and forwards, I cut the prepuce off.

The cuticle readily retracted. With my thumb and index finger of each hand, I seized the mucous membrane and tore it from the glans penis; finding behind the corona glandis a hard ring of sebaceous matter which I removed. I then took a pair of blunt pointed scissors and slit the mucous membrane on the dorsum of penis. I used three sutures to stitch the mucous membrane and cuticle together—there was little or no hemorrhage. I dressed the penis with a thin cloth saturated with unguentum petrolii and ordered frequent applications of cold water.

July 5th. Little fellow cheerful; some little trouble on night of the 4th; ordered the dressings to be continued.

July 7th. Patient and mother both happy—no farther night trouble—had gained strength in lower extremities, removed sutures and continued the former dressings. Two weeks after, I saw my patient running around as if nothing had ever happened to him. Not one dose of medicine was given.

Case II.—John Wesley M., aged 11 months, was brought to my office October 8th, 1878, by his mother. She stated that two months ago, the child had aroused one night, hallooing and screaming as if something was trying to carry him off, and that by the time she got wide enough awake to turn to the child and find out what was the matter, he had quietly gone to sleep. This had continued ever since, being more aggravated. She then noticed him giving way in his knee joints, falling to the floor while standing up by a chair.

This gradually grew worse until he could not stand at all. For some time after this he could crawl about the room. After awhile he had to give up this pleasure and remain wherever he was put. It then followed that the muscles of the upper extremities ceased to obey the will, and finally the muscles of the neck became tired of work, and the head had support only by leaning upon the breast or shoulders. At this stage of the case I saw the child. He looked as if the last ray of hope was gone; extremely emaciated, his eyes were sunk deep into their sockets, and his tongue was heavily coated with brown material, his appetite utterly gone, his bowels very constipated, his abdominal walls rested upon his vertebral column, and he could pass his urine only with extreme difficulty. I examined his penis, and found it very much elongated and contracted, the slightest

touch producing a general orgasm. I advised circumcision, which required some explanation as the mother was illiterate.

She unhesitatingly declared that she would not submit to any such a thing, and exclaimed, that she would rather see her child die as a child, than to see him grow up and not be a man. I soon convinced her that I could cure the little fellow and would guarantee him to be a man.

She then gave her consent and I performed the operation as detailed above.

I found behind the corona gland a firm ring of sebaceous material encircling the entire penis. The meatus of urethra indurated and to the extent of about one-sixteenth of an inch covered with a white deposit, which I thought to be phosphatic. The case being such an aggravated one, I visited it regularly using the same dressings as in the other case.

October 12th. I removed the sutures and found the child improving. I gave 5 gtt. fld. extract ergot three times a day and 10 gtt. syr. iod. ferri three times a day; ordered friction with cold water along the vertebral column, night and morning.

October 14th. Sleeping well; bowels acting a little; could pass his urine in a full gush, and his appetite was improving. Continued the above prescription.

October 20th. Still improving; could now sit up and begin to crawl. Continued the syr. iodid. ferri only.

Two weeks later I saw the child, he was much improved and continues getting better. Just six months after the operation I saw the little fellow again, and he looked red and healthy. He could get about very well and seemed to be completely cured.

Case III.—Henry E., aged 15 months. This is a milder case than either of the other two. I mention it to show how little irritation at the point may cause reflex action. The adhesion was unilateral and the only reflex symptom was the cries at night. I used a grooved director, passing it up under the prepuce and forcibly detached the adhered part, removing from behind the corona glandis a firm portion of sebaceous matter. I gave small doses of brom. potassi. and hydrate chloral at bed time—with no further trouble.

The main pathology in all of these cases seems to be, without doubt, in my mind the irritation produced on the peripheral nerves

by the ring of sebaceous matter found just behind the corona glandis. With the same earnestness which my friend, Dr. Whitehead, urged every member of the medical profession to go at once and buy a copy of Dr. Sayre's work, for the purpose of treating spondylitis, I urge you to buy one for the purpose of treating congenital phimosis and adhered prepuce.

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### PUERPERAL ECLAMPSIA WITH PYOPHTHALMITIS.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879,

By R. F. LEWIS, M. D., Lumberton, N. C.

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Mrs. —, twenty-two years of age, three years married, had a very severe convulsion at the seventh month of pregnancy, and miscarried on the second day after, the child living but a few minutes.

Some impairment of vision followed, which was relieved in a few weeks by the internal use of strychnia, with blisters to temples, nape of the neck, and behind the ears.

Three more miscarriages followed at an interval of some months, no ill effects to the eyes following the misfortunes, twice she had convulsions preceeding.

On the 8th day of April last, I was summoned to see this patient. She had a few days before returned from a visit to her mother, a distance of twenty-five miles—had gone and returned in a buggy. She informed me that she was again pregnant. She had fever; a dirty, dry tongue, with some gastric irritability, and occasional rigors. She complained of a very severe throbbing in the left eye. I quickly produced a blister in the temple, with aqua ammonia, wiped off the skin and to the denuded surface applied morphia made into a paste with water. This had the effect of speedily relieving the pain, and in a few minutes she slept. I left her a powder containing 15 grs. of calomel and 5 grs. Dover's powder to be given that night.

The next morning she was suffering from cramp in hands, feet,



calves of the legs and tongue. Occasionally, she vomited, which seemed to aggravate this trouble, and for some moments after it she articulated with very great difficulty. She informed me that while absent on this visit above mentioned, she had been troubled with the cramp; but with nothing like the severity that she now suffered. Occasionally, her eye throbbed with pain this morning, and there was some tumefaction of the upper lid. Directed that cloths dipped in cold water be kept to the eye.

Knowing so well her former trouble, and fearing a recurrence of convulsions, I immediately prescribed the following mixture :

R

Bromidi potassii.

Chloral hydrat.  $\text{āā}$  3 iij.

Syr. lemonis.

Aquæ,  $\text{āā}$  5 iij.

M.

Gave her of the mixture a tablespoonful, and ordered it to be repeated every hour until the cramps were relieved. I saw her again in a few hours; she was entirely relieved after taking the third dose. The eye lid seemed more swollen and was discharging a watery fluid, tinged with blood. Continued the chloral mixture during the night, in smaller doses, when necessary to produce quiet.

Saw her early the next morning, the eye looked badly, an ugly clot had formed during the night, and was adhering closely to the lashes of both lids, completely shutting up the eye, and from each corner bloody matter was oozing. Promising to call again in a few hours, and having scarcely left the enclosure, when the nurse ran to the door and called me back. Upon entering the room I saw that she was frightfully convulsed. As soon as she could swallow, I gave her a double dose of the anodyne mixture—two spoonfuls, and in fifteen minutes gave her a smaller dose. About half an hour afterwards she had another slight convulsion. The medicine was then given in smaller doses, during the day and night. She had no more convulsions. The next morning the eye was discharging a little pus, and a bread and milk poultice was substituted for the cold water applications. The ugly clot was still there, and she resisted every effort, on my part, to remove it. I dropped into the eye, as well as I could, a solution of the nitrate of silver, (20 grs. to the oz. of water), and applied a blister of cantharides to the temple.

The nurse informed me the next day that there was some vaginal discharge. Upon making a digital examination, I found this to be the case; but there was no dilatation of the os, or any uterine contraction. During the night I was sent for, and found her in labor, and in a short time she gave birth to a *fœtus* apparently of three months fecundition, the placenta coming away first, and in a partially decomposed condition. On the seventh or eight day after its appearance, the clot came away and the swollen lid rapidly subsided; then, for the first time since she became sick, I was able to make an examination of the eye ball. The cornea was in a complete state of opacity, and I feared that the organ itself, from its protruding appearance would soon break down and slough away. The lower conjunctiva now became involved and the whole lid was everted.

Directed the room to be kept dark; scarified the conjunctiva, and blistered the temple. Continued the nitrate of silver applications and the poultice. With the unaffected eye closed, she cannot distinguish night from day. Pus is being freely discharged.

The condition of the eye on the 25th day seems better, the inflammation is subsiding, and the ball appears to have assumed its natural size. I have, for some days, been dropping into the eye, a solution of atropine—2 grs. to oz. of water. The opacity continues. Sitting near a window, with the good eye closed, she can readily discern when the curtain is raised and lowered.

In the beginning I thought it neuralgia, and afterwards took it to be a case of purulent ophthalmia; and so continued to think, until I noticed the condition of the placenta, and the purulent discharge accompanying it; then I became convinced that it was a case of pyophthalmitis, resulting from the absorption into the circulation of the purulent matter in the uterus. The cramps she had on the above mentioned visit, were probably coincident with the death of the *fœtus* in utero.


It is possible, if abortion had taken place at that time, she might have escaped this terrible disease of the eye.

The trouble began with her eye. No vaginal discharge took place until many days after she was attacked. This, in connection with the subsequent debilitated and anemic condition of my patient, I think, bears me out in my latter diagnosis.

Under the administration of quinia, *strychnia* and iron, she is

slowly gathering strength. There is yet some pain, occasionally, in the eye, and, I fear, that she may yet have to submit to its extirpation.

My object in presenting this case, is not to claim that I have thrown any light on the disease; but merely to call the attention of my brethren to its insidiousness. I have never met with a similar case, and I have not been able to find much literature on the subject. Professor Gross in his work on surgery, remarks that it is of such a destructive character, that treatment, however vigorous, avails but little. The proper treatment then is to prevent, if possible, the disease. When this is to begin, and what it should be, I shall leave to abler minds to explain.



#### GENERAL RICHARD TAYLOR'S LAST ILLNESS.

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Lieut. General Richard Taylor while in Washington the latter part of February, as he was about to leave the house where he was staying, to go to a dinner party, was suddenly attacked with hematemesis, vomiting, it was said, more than a quart of dark blood. In two weeks from this time, he recovered his strength sufficiently to leave Washington and come on to New York. Previous to the attack of hematemesis, he represented himself, and evidently believed himself to be in good health, but his friends had for some months observed appearances of bad health. On his arrival in New York, he consulted Professor Austin Flint, Sr., who found the spleen greatly enlarged and tender on pressure, and some fluid in the peritoneum. His appetite was good, and he complained of nothing, except shortness of breath, and difficulty in going up stairs. The abdomen rapidly enlarged and became painful, and his general condition became worse.

March 23. Dr. Fordyce Barker was associated with Dr. Flint in the case. His appetite now began to fail and he suffered so much distress from the distention of the abdomen, that it became necessary to relieve him by tapping, and Dr. A. A. Smith drew off nine quarts of fluid. For the first time his physicians were now able to

make a thorough exploration of the abdomen. No tumor of the stomach could be found, the liver seemed normal as to size, and his habits of life and symptomatic history seemed incompatible with the theory of cirrhosis of the liver, while the enlarged spleen and the hematemesis, were believed to be due to some obstruction of the portal circulation.

For three days after the tapping, he was relieved of both pain and dyspnoea. Rising about ten in the morning, and sitting up until evening. He took nearly two quarts of milk with great relish, daily; but very little food beside. On the 8th of April, he began to complain of nausea, weakness, and disgust at the sight of any food. The next day he vomited more than a quart of fluid which was chiefly blood, having the appearance of black vomit. He also had several alvine discharges of the same character. April 11th, he became unconscious and died in the night.

#### AUTOPSY OF GEN. TAYLOR.

Autopsy was made by Dr. W. H. Welch, in the presence of Drs. Fordyce Barker, A. A. Smith, and C. T. Williams, twelve hours after death.

*Exterior.*—Emaciated. Old brownish cicatrix over crest of left tibia, said to be due to wound received in Mexican war.

*Heart.*—Dimensions of heart walls and of cavities normal. Recent fibrinous vegetation size of pea on auricular surface of mitral valves; also, several smaller fibrinous deposits on same surface.

*Lungs.*—Old pleuritic adhesions on both sides; hypostatic congestion and oedema.

*Spleen.*—Much enlarged, about ten inches long and six broad, consistence firm, capsule much thickened in certain spots. The organ contains several hemorrhagic infarctions, three of large size, one being four inches in diameter. The large ones are of dark red color; some of the smaller ones are partially decolorized, grayish red ante mortem thrombi can be detected in branches of the splenic vein leading to the infarctions.

*Kidneys.*—Surface coarsely lobulated; presents several cicatrix-like depressions; cortical substance thin; capsule non-adherent.

*Liver.*—There are two cicatricial depressions on the upper surface of the right lobe. The remaining surface is somewhat granular; but the cut surface shows no signs of cirrhosis or other change.

*Peritoneal Cavity.*—Contains several quarts of yellowish fluid, holding in suspension flocculi of fibrin; there is present recent fibrinous deposit over visceral and parietal peritoneum, evidencing acute general peritonitis.

*Splenic and Portal Veins.*—On the inner surface of the splenic vein, and, also, to a less degree in the portal vein there are several rough calcareous plates and spines projecting into the lumen of the vessel. Firmly attached to these calcific spots and extending throughout the splenic vein, and into the substance of the spleen and through the portal vein so far as its primary divisions in the liver is a grayish red thrombus, which, at the bifurcation of the portal vein, appears to completely occlude the lumen of the vessel. The thrombus is moderately adherent to the vessel wall; but is not organized.

*Stomach.*—Contains black coagulated blood.

*Bladder.*—Empty.

*Arteries.*—Very slightly atheromatous.

*Brain.*—Not examined.

Other organs normal



## ISOLATION OF THE YELLOW FEVER GERM BY THE “SIMILARS.”

On the opposite side of the fence from us, in the broad field of homœopathy, a Dr. Walter Bailey has discovered *the* yellow fever germ, and has actually shown the “fungus growths” to a convention of his confrères! How long the much-abused fungi will stand this constant charge of bad behavior, and be actually imprisoned by their accusers, and held up to the gaze of a learned concourse, as culprits, without their calling out for certificate of good character from Peek and Farlow and Ellis and Ravenel we do not know; but we think it is about time that arrest on mere suspicion was left to the baser sphere of a magistrate’s court.

*New Surgical Dressings.*—Use the cotton prepared by Am Ende for surgical dressings once, and you will not be without it again. It is beautiful to look at, and is the perfection of cleanliness and purity.

## SELECTED PAPERS.

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### THE VIVISECTION QUESTION IN GERMANY.

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The development of physiology during the last quarter of a century in Germany has been by general acknowledgement unprecedented in the history of science. Instead of being united with anatomy in one professorship in the universities it is now often argued that it is too wide a field for a single specialist. In determining of the large new Institute in Berlin, "the palace of the queen of natural science," according to the director, it was debated whether a year's course of lectures of five hours a week on general physiology must not be superficial, and whether the work should not be divided, as Pflüger and others have suggested, among its several constituent departments. A physiologist, it was said, must be by turns physicist, chemist, mathematician, toxicologist, microscopist, and now, by general consent, even by philologist, like Brücke, and philosopher like Wundt. The younger men who now overcrowd the market, and occasion the liveliest competition, devote themselves mainly to some one of its sub-specialties. The Berlin Institute is the largest of some half a dozen well-equipped and independent establishments of the kind which have been built in Germany during the last ten or fifteen years. Besides several auditoriums with every convenience for experimentation, and for bringing microscopic and other preparations under the eye of each student, it contains large and full furnished laboratories for physical and chemical work and for vivisection, intricate webs of electrical wires connected with constant batteries in the cellar, a magneto-electric machine of several horse-power worked by steam, and extensive basement apartments for frogs, rabbits, dogs, guinea pigs, pigeons, etc., all cared for by nearly a score of servants, famuli, and assistants, and all directly under the care and inspection of the government, with fully detailed records of all original work published in the various physiological archives. The preëminence of German science is nowhere more supreme than here.

These are the men and institutions against which the anti-vivisection movement is directed. The question is comparatively recent here, and has very different features from the agitation in England.

as a result of which vivisection is there allowed only to a very few eminent men by government license and under severe restrictions and liabilities. An illustrated brochure of nearly eighty pages, entitled the "Torture Chamber of Science," was published about the beginning of the present year, which has had an immense sale, already been translated into five foreign languages, and reached a sixth stereotyped edition. It is written with striking journalistic art by a young nobleman, who is one of the directors of the Dresden Anti-Cruelty Society. Public sentiment has been so aroused by the discussion thus evoked that eminent physiologists like Ludwig have been threatened on the street, and one of his more timid friends expressed to the writer his fear that the trouble might become as serious as in the case of Prof. Schiff, who was lately obliged to remove from Florence by a league of workingmen who threatened his life. The author has turned many hundred pages of archives, and describes the roasting of live rabbits, the effects of curara, the throwing of dogs with extirpated brains into water-vats, etc. He conjectures how many animals different physiologists have sacrificed; charging one by name with having tortured to death fourteen thousand dogs, gives a long list of contradictory or doubtful results reached by different experimenters, describes and illustrates affecting scenes where animals have pleaded for life, and students have turned away sickened not only from the vivisectionarium but from the study of medicine, and concludes that the evil he describes is one of the greatest moral stains upon modern civilization, making physicians unsympathetic and often careless and hard-hearted. Physiology, it is said, can scarcely be called a science as yet, and the contributions of vivisectionists to the understanding and amelioration of human suffering have been almost nothing. It is as if one sought to learn the secret of Raphael's art by cutting up his canvasses. Science, it is said, will be brought into popular disfavor and ladies are exhorted to give up the patronage and acquaintance of all physicians who operate on live animals, and to become themselves members of Anti-Cruelty Societies, now too often controlled and often presided over by "hypocritical vivisectors."

There is no doubt that, after making all allowance for the extravagance and sentimentality, and even the ignorance of many errors in the statement of fact, in such arguments as the above, there is

sometimes unnecessary cruelty. It is largely a matter of individual character whether a physiologist carefully informs himself beforehand of all the results of previous experiments and of the anatomical situation, and specifies sharply in his own mind the question he wishes to determine, and the method of the least possible suffering by the use of anæsthetics when possible. Restrictions by competent authorities also cannot possibly be too great or numerous. But to one who is acquainted in laboratories and with their directors, the general charge of inhumanity is simply absurd. There are now very much fewer private experiments or experimenters than formerly. Nearly all studies are made by specialists and in institutes, with the greatest publicity, and thus contribute their moiety to general progress. In order best to observe, one must be collected and rapid, and for the moment unsympathetic; but every investigator knows that pain is always a disturbing element, and must be reduced to a minimum. Moreover, a clumsy or cruel experimenter is condemned nowhere more severely than by his own co-laborers. For ourselves, we cannot but regard the anti-vivisection feeling here as born of the same sentimentality of ideal over-refinement, wealth, or idleness which prompts the Brahmin to sweep his path before him lest he tread unconsciously on a worm, or a well-known Berlin clergyman to eat the flesh of only *large* animals, that he may share with many others the accountability for the taking of life; and which in this matter makes common cause with social democracy if the latter, as we suggest, may be defined as the consensus of the incompetent upon properly professional questions.

How much animals suffer when compared with men in the same conditions admits as yet of no psycho-physic formulation, and perhaps never will, but all indications drawn from the structure of their brain are that it is far less. Nearly all that is known of mitigating their pains and of curing their diseases is due to physiology. Their most inexcusable tortures are for man's amusement—the chase, pigeon-shooting, etc.—but how much more reprehensible these are than the excessive care lavished on lap-dogs, favorite race-horses, etc., we leave for moralists to determine, and content ourselves here with enumerating a few of the most general results which the practice in question has already contributed to the cure and prevention of disease. In certain cases of cramp, attended by dila-



tion of the pupils, vivisection alone has been able to teach that the trouble is in the cervical sympathetic nerve, and designated both the nature and place of the application of the remedy. Since Bernard found the cerebral point, the puncture of which caused diabetes, a long series of experiments on living animals have led to a new and far more successful treatment of this disease. The methods and conditions of the transfusion of blood, of the removal of diseased kidneys and ovaries, of artificial nourishment by stomach fistula, sub-periosteal re-section, the application of the artificial larynx, have all been learned by experiments on animals. The possibility of such operations could never have been first proved on human subjects. According to official statistics over twelve thousand men die annually in India from the bite of poisonous serpents. Professor Burdon-Sanderson conceived the idea of seeking an antidote by experiments on animals. Perhaps nothing could be more painful, and the discovery is not yet complete, but there is increasing reason to expect that it will soon be. After trichinæ were observed, and official microscopic examination of pork introduced, it became essential to know in what part or parts of body the parasite was to be sought for, and it was found that hams, carefully examined, were often still infected. By experiments on living animals the development history of the worm is now so thoroughly known that a single examiner, by the inspection of a part of the diaphragm, can tell at once and with certainty whether or not meat is marketable. Such are but a few of the immediately practicable ways in which animals have been offered to save human lives.\*

It cannot be denied that there are very many details respecting the functions of the brain, the stimulation of circulatory centres, various secretions, reflexes, etc., in which eminent authorities can disagree, and which can be decided only by experiments on living animals, but the incontestable fact remains that whenever physiology is thoroughly cultivated it has almost re-created the study and practice of medicine. Helmholtz, who has never published investigations requiring vivisection, and who may be called an impartial and competent judge, in speaking of the wonderful technique which its methods have developed, adds that the practice has made accessible to scientific observation a great number of most profound

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\*See *Die Vivisection im Dienste der Heilkunde*. Von Prof. R. Heidenhain.

problems which a few decades ago seemed quite hopeless. Following the example of Claude Bernard, French professors often try to combine original observations with demonstration in the class-room, while in Germany it is held that a few fundamental experiments on living animals are indispensable for "heuristic" purposes alone. Every medical student has a struggle with his instinctive feelings in making acquaintance first of dissecting-rooms and museums of morbid anatomy, then of hospitals, and especially of surgical clinics: but every one knows these feelings must be repressed, or he will never have the steady hand and eye which gives poise and self-control in a critical emergency. The half-unconscious knowledge of this is no doubt at the bottom of much of the demonstrative and offensive, but often utterly insincere, affectation of hard-heartedness by young medical students. It is not only as necessary, but, we think, as natural for a good physician to grow more rationally sympathetic as for a moralist to cultivate conscientiousness. Vivisection is cruel, but disease, man's greatest enemy, is more so; and if we were to retort in Herr von Weber's style of argument, we might ask him if he would refuse to torture a favorite dog for even a forlorn hope of saving the life of a member of his family? We shoot noxious animals, slaughter calves and appropriate the mother's milk, etc., with the conviction that it is our duty to make way for the higher organization. For the same reason the physiologist has not completed his task when he has told us how animals grow: he must also describe the important changes which takes place between injury or the death of the brain and the beginning and progress of decomposition. No science has such problems and possibilities before it, and we consider the controversy we have attempted to epitomize as one of the most important of the many battles which science has waged with sentiment.—*The Nation*.

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*Do not forget* to keep carefully the Record Book of deaths sent to you by the Census office. It is a small thing for the doctor to do, but in the aggregate it will accomplish a very desirable end.

## REVIEWS AND BOOK NOTICES.

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THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. By THOMAS ADDIS EMMET, M. D. Surgeon to the Woman's Hospital of the State of New York, etc. Pp. 855, With 130 illustrations. Philadelphia. 1879. H. C. Lea, Publisher.

Never has a more valuable work on Gynæcology been issued from the medical press of any country than this.

It is very appropriately dedicated to the memory of the author's father, and to his many friends in the profession who have attended his clinics at the Woman's Hospital.

In the preface, reference is made to the large clinical field from which the fruits of his labor have been gathered. The tables, which occupied two years of his time not required for professional work, are marvels of accurate knowledge and patient industry.

Towards the close of preface the author remarks: "From the first page to the last I have cherished the same deep sense of responsibility that every conscientious physician must feel at the bed-side of a patient whose life is in his hands." This sentence we know to be so literally true, and which adds such a value to the work, that we could not pass it unnoticed.

Dr. Emmet has followed the beaten track of no one, but the major part of his work contains, truly, the fruits of his own originality. Possessed of the keenest powers of observation, and of a mind capable of interpreting the impressions conveyed to it by well trained senses, with the love of truth conspicuous among the qualities of his intellect, and the duties which he owes to science, this labor of love has produced an enduring monument of his fame, and placed, under lasting obligations, his brethren *throughout the world*. Feelingly can we say, he is as honest an investigator as was the lamented Austin. More we could not say. Justice demands that we should not say less.

But now to the work itself.

Chapter I treats of "The Relation of Climate, Education and Social Condition to Development." The important part, and pith, of this chapter is how to make a girl the woman she should be—not to overtax her brain in learning French, German, Spanish, Music, &c., *at the expense of poor physical development*, entailing

menstrual disturbances, headaches, backaches, nervousness, &c. ; but to build up and consolidate a fine physical organization to fit her for conjugal and maternal duties, for God has appointed a place and a duty for woman, out of which she can neither accomplish her destiny nor secure her happiness.

Chapter II treats of the instruments used in examinations. In speaking of Sims' speculum, the author says : " Full justice, in the light of our present knowledge, cannot be done in the treatment of uterine diseases by any other instrument than this perineal retractor, or some other based on the same principle, and like it capable of exposing the whole vagina.

" In a single generation the use of this instrument has advanced the knowledge and treatment of the diseases, and especially the injuries, of woman from profound ignorance to a front rank, if, indeed not beyond that of any other branch of surgery." Yet, notwithstanding this assertion of this distinguished gynæcologist, we know many practitioners of some reputation in their respective localities who never saw this simple instrument, and who, if they had one, could fly to the moon as easily as they could properly use it.

We now pass on until we come to Chapter V, which treats of " Causes of Disease, Reflex and Direct." And here we must notice what the author says about congestive hypertrophy of the uterus. Says he : " A whole generation of physicians has been misled by the delusion of *chronic inflammation and ulcerations* of the uterus, conditions which no one has yet been able to demonstrate in the dead body." He holds that inflammation of the uterine body (unless poisoned by gonorrhœa or some other foreign irritant) does not occur except after parturition, and that " those conditions which are commonly held to be the direct results of inflammation are due wholly to obstructed circulation in the organ, caused by pathological processes in the cervix and neighboring parts. In this way are to be accounted for the so-called uterine hyperplasias with their attendant leucorrhœa." In a word, he holds that, in consequence of the uterus being surrounded by a mass of blood vessels running through the cellular tissue, from impaired nutrition they lose their contractility, and that *venous stagnation* is the result. This, then, is the starting point of disease—in the cellular

tissue—whence comes congestive hypertrophy. “This condition will be found wherever the laws of nature have been persistently violated, by means taken to prevent conception, or where the act of intercourse has been improperly performed.

Just here we would like to “drop a pebble on the Cairn” of our dear preceptor, the great and good and lamented Hodge, but time and space will not permit. In the condition just named, as well as in all uterine diseases, the author attaches the *greatest* importance to the use of copious *hot* water, vaginal injections, the value of which in diseases of women he was the first to teach. He gives full directions and cautions in regard to their use.

When speaking of applications to the uterus, he, with other recent writers, thinks it questionable whether any lining membrane at all exists above the internal os. He, therefore, thinks it irrational to make a caustic application to this surface. Morgagni and Chaussier have denied the existence of a mucous membrane above the internal os, and while Barnes thinks it settled that there is one, he says: “Tyler Smith stated clearly, that after the menstrual flow the inner surface of the body of the uterus was left bare, a sharp line of demarcation being observed at the os uteri internum. This I have had opportunities of verifying.” Thus he thinks there is a “shedding” of the membrane at menstruation. If then, constantly renewed, as an outgrowth from the muscular tissue, why Dr. E. asks, “make a caustic application to a surface which cannot long exist in a state of disease independent of the tissues beneath, and we cannot hope to arrest a discharge until the whole surface has been seared over.”

Now we come to the most important subject which could possibly engage the study of the gynecologist, and we regret exceedingly that we cannot, owing to the short space allowed, enlarge upon it; but we hope in the not distant future to treat of it *in extenso*. We refer to *urethral stricture in the male in its causative relation to gonorrhœa and other diseases in the female*. Dr. Emil Noeggerath, now a colleague of Dr. Emmet at the Woman's Hospital, is the only American gynecologist who has given this subject the study its importance demands. Others have referred to it only in a general way. Under the head of “Accidental Causes of Diseases,” Dr. Emmet says: “According to the observations of Dr. Noeggerath, of this

city, the secretions from the urethra of a man who has a stricture, the result of gonorrhœa, are of a sufficiently irritative character to establish inflammation in the genital tract of the wife, its favorite locality being in the fallopian tubes." Five or six years ago, Dr. Noeggerath published in Bonn an essay on Latent Gonorrhœa in females, in which he says: I believe I do not go too far, when I assert that of every 100 wives who marry husbands who have previously had gonorrhœa, scarcely 10 remain healthy; the rest suffer from it or some other of the diseases which it is the task of this paper to describe." The diseases referred to are acute and chronic perimetritic inflammations, ovaritis and catarrh of the genital tract. At the first meeting of the American Gynecological Society, 1876, Dr. N. read a paper on the same subject, embodying similar views. Dr. Barnes says his views have "an apparent basis in facts, and that the subject is worthy of further investigation." In speaking of gonorrhœal peritonitis, Barnes says: "The poison acting first at the point of contact, lights up inflammation of the vaginal and cervical mucous membrane. This spreads to the mucous membrane of the body of the uterus, thence along the fallopian tubes. The ovaries are very commonly engaged." Duncan corroborates these views, as does Thomas, who says: gonorrhœa, by passing into the uterus and through the fallopian tubes, is a fruitful source of pelvic peritonitis." Bernutz says 28 out of 99 of his cases had this origin.

Now for the benefit of those specialists who read nothing outside of their own branch (unfortunately there are too many of them), I beg to quote a few paragraphs from the late work of Professor Otis, of New York, on Urethral Stricture in the Male. On p. 75, he says, in speaking of "Gleet the Signal of Stricture"—"Sandal oil may stop it for a time; injections of innumerable variety may, any one of them, temporarily remove it; but a little venereal or venereal excess will reproduce it, and thus the case goes on, getting as many such cases will affirm, *a new clap for every woman looked at*, until finally an attack of *retention of urine* calls attention to the fact that the patient has strictured urethra."

After enumerating five cases of gleet, Dr. Otis says: "Each and all the varieties of gleet above described may, it is believed, be proved to owe their persistence, if not their *existence*, to simple, localized, mechanical obstruction to the passage of urine."

So far as we have been able to learn, the first published statement (June, 1870) to show how a man, long well of gonorrhœa, but still having stricture of urethra, could infect his wife, is from Professor Otis (Vid. p. 20, of his work on Stricture of Male Urethra).

Now what is the lesson to be learned from the extracts we have quoted and the knowledge we possess? Manifestly this—that the gynecologist who treats any disease in the wife which gleet in the husband could cause (unless another cause were very apparent), while treating the wife *he should examine the husband for stricture of the urethra*, and, if detected, he should be at once cured. For what would it avail to cure the wife, if she is to return at once to the bed of a husband with strictured urethra? We have devoted a little time to this subject because of its importance, and the ignorance of it by medical men generally, and because we believe that, on account of this ignorance, many a home has been the abode of misery which might otherwise have been bright and happy.

Now we must notice what we think is, beyond a doubt, the most important chapter in the book, the one on Pelvic Cellulitis. We are sure the author thinks so, too, for he says: "this disease is by far the most important one with which woman is afflicted." He further adds: "It is the most common, and becomes the more important in being comparatively seldom recognized. I do not hesitate to make the assertion, as a truth based on my own knowledge, that many practitioners habitually neglect to recognize this condition when circumscribed, or they do not appreciate its importance if by accident it be detected. \* \* \* \* Its undetected presence may, to the end, thwart all efforts of treatment, or may gravely complicate the case by suddenly developing to a most serious extent. A great advance in the treatment of the diseases of women will be made whenever practitioners become so impressed with the significance of cellulitis as to apprehend its existence in every case. The successful operator in this branch of surgery will be he who is always on the lookout for the existence of cellulitis, or, who is taking measures to guard against its occurrence." "The starting point," says he, "in every case should be to determine the existence of the slightest trace of cellulitis."

His rules for forming a diagnosis are very clearly given, and he considers no examination complete without an exploration *per*

*rectum*. On the latter he lays much stress, for extensive disease could exist along the upper part of the broad ligament and in the ovary which could not be recognized by a vaginal examination alone. The importance of the subject will justify me in again quoting in regard to what I have already referred. "My convictions are that while the primary cause of disease lies, through the influence of the sympathetic system, in impaired nutrition, we must look to pathological changes in the connective tissue as the cause of the results we now regard as the original disease in the uterus and ovaries." These views do not refer to the puerperal state. The author combats the view that cellulitis is secondary to metritis, salpingitis, or ovaritis. In consequence of the vast number of blood vessels and nerves distributed through the connective tissue of the pelvis, and the dependence of the uterus on them for supply, the author thinks this tissue more liable to become inflamed, "just as, for instance, he who transports nitro-glycerine is more exposed to danger than he to whom it is to be delivered." The etiology of the disease is well considered, and is a very important part of the chapter. Some valuable tables are given in this connection. Table XIV gives the "Causes of Cellulitis, Uncomplicated with other Local Disease." The author thinks too small a proportion has been attributed to the sewing-machine. It should never be used during the menstrual period. At other times it should be used with the greatest judgment by the most robust women, while, for the delicate no more certain means could be devised for producing disease." Table XV shows different diseases complicated with cellulitis. Table XVI shows how menstruation is affected by cellulitis and Table XVII condition of the menstrual flow after cellulitis. After most lucidly describing the symptoms, the author proceeds to the treatment. After reaction from the chill, the patient is given 15 grs. Dover's powder, and at the same time a hot water vaginal injection. The latter is so important that we give the author's own language concerning it: "This injection should be continued literally *for hours*, if possible, and be repeated at short intervals. It is the only means we possess for abating an attack of cellulitis, which *it will do, if thoroughly employed at the beginning*." The patient's position must be made comfortable, lying on her back with the hips well elevated, and great care taken to protect her from



exposure to cold. The author prefers a Davidson's syringe to a fountain, as he thinks the impulse of the jet of water needed to excite proper contraction of the vessels. The nozzle of the syringe should be a non-conductor of heat, or the patient will be burned, or excessively annoyed. The continued action of the hot water is to stimulate the circulation in the pelvis, that the local congestion may be relieved before serum is exuded.

Another remedy to relieve the congestion is opium, which is given per rectum. "The next stage will be a critical one, and will test to the utmost the recuperative powers possessed by the individual. It is of uncertain duration lasting from a few hours to days, and is generally "the one first seen by the physician, although not always recognized." Here "rest in the recumbent posture is *absolutely* called for," the body must be protected from cold, and the extremities kept comfortable by artificial means. Next comes a blister, followed by poultices. Nutritious food and tonics must be used. "To regulate the bowels during the later stages of cellulitis will prove a problem very difficult of solution." It is very important to prevent an accumulation in the bowels, to prevent obstruction to return circulation from the pelvis, and dyschezia, which would not only cause great pain, but aggravate the existing trouble. Oleaginous enemata must be given, but few are able to tolerate these, and it is often necessary for the physician or nurse to empty the rectum with the finger. To do this properly and efficiently requires no little skill. Mild and nonirritating purgatives may be given, as sulphur and cream of tartar, but care must be taken to preserve the stomach for the digestion of food. Vaginal injections must be continued throughout the progress of the case, morning and night, using a gallon of hot water at each injection. The stages of exudation and infiltration may be regarded as one, the same treatment being applicable to both. We now come to the formation of pus, or Pelvic Abscess. We regret we have not time to do more here than to offer a little adverse criticism. In a patient with hectic or irritative fever, blood poisoned, and the vital powers so exhausted that the heart acts with greatly increased frequency to make up for lost force, we find the author extolling, among some well-directed and appropriate remedies, *aconite* for its *tonic* effect on the heart. We believe aconite to have just the opposite action. No notice of this

being taken among the "corrigenda," we must think the author means what he says. Then we ask him, in his next edition, to furnish the evidence to show that aconite is a heart-tonic, or hasten to use digitalis in its place. Aconite is considered by high authority a questionable remedy in sthenic (?) inflammation—in adynamic it is entirely out of place. We refer the author to the works of Ringer, Fothergill, H. C. Wood and Bartholow.

We should have said early in this chapter that some authors attempt a differential diagnosis between pelvic peritonitis and pelvic cellulitis. Our author acknowledges his inability to make any distinction at the bed-side. He says that inflammation of the pelvic peritoneum must involve the cellular tissue, and that we cannot have extensive cellulitis without pelvic peritonitis, which may become general.

The consequences of pelvic cellulitis, aside from its immediate dangers, are very grave. Sometimes the ovaries are destroyed by suppuration, or they may become atrophied, and the fallopian tubes be permanently occluded. Sometimes the uterus is permanently displaced by adhesions.

The succeeding half dozen chapters are on displacements of the uterus and the use of pessaries. The author starts out by giving the anatomical supports, and normal position, of the uterus. In the rectification of malpositions of the uterus and their treatment, and the adjustment of pessaries to hold the organ *in situ naturali* Dr. Emmet has few equals—no superiors. We have known cases to pass through the hands of distinguished gynecologists without relief, to speedily find it in his. In speaking of pessaries the author says: "From some members of the profession, the opposition to the use of pessaries is as denunciatory as if they were condemning a species of malpractice. This opposition may be sincere, but it is conclusive evidence of their ignorance. I have never known a practitioner who was able to fit a pessary properly, who was not also fully satisfied with the amount of benefit derived from its use." To the late Professor Hodge of the University of Pennsylvania, we are certainly indebted for well nigh all we know on this subject. His pessary or some modification of it is more frequently used than any other, and in retroversions and retroflexions none can equal it, or some of its modifications. Dr. Emmet's is the best modification

we have seen, and that of Dr. Thomas also for posterior displacements. "The pessary," says Dr. Emmet, "should be fitted for the vagina without any outside appliance whatever, and to accomplish this is the perfection of the art." We cannot say more of these chapters than to give them unqualified praise, and to assure the reader that a careful study of them will amply repay him.

We now pass to Laceration of the Cervix Uteri. Two years ago Dr. Sims said, referring to Dr. Emmet, "His operation for cervix uteri will give him immortal fame even if he should never contribute another thing to the progress of gynecology." To Dr. Emmet certainly belongs the credit of priority in recognizing (1862) the frequency and importance of this lesion, and of originating the operation for its cure. In February, 1869, his first paper appeared on the subject, another in September, 1874, (translated by M. Vogel and published in Berlin, June, 1875), and a third in December, 1876. The last, with the previous one, was soon after published by Dr. Vogel, with a preface by Dr. Breisky.

Until recently this condition of laceration was universally mistaken for ulceration, the early stages of epitheloma and corroding ulcer of the uterus. To heal this "ulceration" baffled every mode of treatment until the true lesion was discovered, and the proper operation performed. A full recognition of the importance of this lesion throws new light on cases of elongated or hypertrophied cervix, and ulceration. Dr. E. thinks removal of the cervix is not called for except for malignant disease.

We must hasten on to briefly speak of one more important matter before closing this review. In speaking of Vesico-Vaginal Fistula, Dr. E. says: "I do not hesitate to make the statement that I have never met with a case of vesico-vaginal fistula, which, without doubt, could be shown to have resulted from instrumental delivery. On the contrary, the entire weight of evidence is conclusive in proving that the injury is a consequence of delay in delivery." In this connection we beg to refer the reader to the number for January, 1879, of the *Dublin Journal of Med. Science*, which contains a clinical report of 152 cases of forceps delivery by Dr. Geo. Johnston, late Master of the Rotunda Lying-in Hospital, Dublin. We are sorry we have not space to quote from this report, as it is a strong plea for the forceps when the second stage of labor is lingering. It

becomes doubly so when taken in connection with the above assertion of Dr. Emmet.

This work contains, in all, forty-three chapters embracing the whole range of gynecology.

We have not had space to describe any of the operations which have contributed to make the fame of our author, nor to refer to his skill as an operator. We will mention, however, that in 1867 or 1868, after he had just finished an operation for vesico-vaginal fistula in the operating room of the Woman's Hospital, Dr. Sims, who had been looking on in admiration, exclaimed: "Well, Emmet is the best operator I ever saw!" This I thought quite a compliment, for Dr. Sims had seen the best operators in this country and Europe.

It gives me great pleasure to say here that Dr. Emmet has, in a most honest and ingenuous spirit, done full justice to the gynæcological labors of Dr. Sims.

We ask pardon for omitting to state until now that the author says, early in the work, that "the object in view throughout the book will be to impress the reader with the fact that *success in the treatment of the diseases of women lies wholly in attention to minute details.*"

As already stated, this is, emphatically, an original work; and I think it can be said, with great truth, of the doctrines taught in it what its author has said of hot water vaginal injections—that "they are destined to overturn both the theory and therapeutics of uterine disease, as now accepted."

This book will be bought and eagerly read by every physician who feels and appreciates the deep responsibility attached to his high and holy mission.

We congratulate Dr. Emmet on the splendid success he has achieved in producing a book which must prove of inestimable value to our profession, and, through its members, the means of conferring the greatest blessings on woman throughout the civilized world.

W. A. B. N.

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TENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. January. 1879. Boston: Rand, Avery & Co. 1879. Pp. 310. With numerous diagrams and wood-cuts.

The volumes already issued by the Massachusetts Board of

Health have given a high standing to the members of the Board and the sanitarians who have aided them. The volume before us sustains the reputation earned by the Board, and we trust that the changes which have recently taken place, will not in any degree lessen their working capacity and opportunities. We have great faith in the learning and useful accomplishments of the gentlemen who have brought this Board of Health to so great a degree of success, and it surely must be that the sensible people of the old commonwealth will not for a long time allow their work to be eclipsed by any experimental methods whatever.

It seems to us that one matter in the leading article in this report deserves more than a passing notice. It is by T. S. Clouston, M. D., Edinburgh, and is entitled "An Asylum, or Hospital Home, for two hundred patients: constructed on the principle of adaptation of various parts of the House to varied needs and mental states of inhabitants," etc.

"In planning the asylums for the insane, built seventy years ago, the dominant idea in the minds of their architects was secure custody: in the course of those built about thirty years ago, the idea of curing patients had modified in a marked degree the jail-like features of the earlier buildings."

The author goes on to say that since the improvements in the character of the hospitals for the insane have been going steadily on. He describes the non-restraint plan at Morningside Asylum and elsewhere in Scotland, showing that there are no locked doors or asylum contrivances for security.

This plan he shows has been steadily growing into use in Scotland, so that "now there is scarcely an asylum that has not some wards where the access to them and the exit are as free as in any ordinary house or hospital." He believes that mistakes have been made in going from extreme to the other, but even the indiscretion of managers has done good. "The greatest advances in the treatment of the insane, from Pinel's and Tukes' time onward, have been made by running risks for the sake of benefiting the patients."

The principles of construction adopted by Dr. Clouston are laid down in forty-four propositions.

Four plans annexed illustrate the verbal description of the suitable buildings. We commend this article, and also the articles by

Dr. Edward Jarvis and Dr. Charles F. Folsom, in the third, fifth and eighth volumes of Massachusetts Reports, to our new State Board of Health, as containing valuable suggestions for the construction of our State asylums now in process of building. This is especially needed as the law makes the North Carolina Board of Health the sanitary advisers of the State authorities in the construction of public buildings.

The next article is on "The Growth of Children," a supplemental paper to the one on same subject in the Eighth Report, by Dr. H. P. Bowditch.

The article on "Common Defects in House Drains," by Eliot C. Clark, C. E., is one of practical importance, and teaches many valuable things ordinarily overlooked. The defective drain-structures are shown by numerous wood-cuts.

Over a hundred pages are taken up with the case of "Cambridge vs. Niles Brothers." This is a case in which the Board of Health was called upon by a petition of citizens of Cambridge, to cause Messrs. Niles Brothers, proprietors of a slaughtering and rendering establishment which was located within seven hundred feet of Fresh Pond, the water supply of the city of Cambridge, to "cease and desist." The building was characterized as a public nuisance, and the public health, comfort, and convenience, and particularly the health of all the persons who use the waters of Fresh Pond, required that the said building should not be used for the purposes of slaughtering and rendering. No decision had been given in this case up to the time of the issue of this volume, but the careful investigation of the case will have a marked effect on future investigations of water pollution, whichever way the case is decided.

Edward Cowles, M. D., makes "A Contribution to the Study of Ventilation, with Chemical Examinations," by Professor Edward S. Wood, of Harvard. This article is illustrated with diagrams of longitudinal sections of hospital buildings; cross sections of buildings showing velocities and directions of air-currents, etc., by Air Metre.

The general report on the "Health of Towns" is largely taken up with the report of Water Supplies in the different towns.

We commend the perusal of this and the preceding volume of this series to the new army of sanitarians just now looking out on

the field for the first time, not only as a good preliminary study, but for frequent reference.

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PARESIS OF THE SYMPATHETIC CENTRES FROM OVER EXCITATION, by High Solar Heat, Long Continued and Suddenly Drawn, etc. So-called Malaria: Its Etiology, Pathogenesis, Pathology and Treatment. By CHARLES T. REBER, M. D. St. Louis: Geo. O. Rumbold & Co. 1879. Pp. 115.

This work the author tells us "is the result of thirty years of personal experience and observation, in regions of country specially favoring the prevalence of the disease," and that this experience "has fully demonstrated an imperative need of a more advanced and scientific presentation of the etiology and pathogenesis of this disease."

We wish we could feel as well satisfied as the author seems to be that he has made out his case. He remarks "it is quite evident that the air, *per se*, has nothing to do with the production of the diseases now known as the malarial diseases. If even the cause were some gaseous emanation from vegetable decomposition or other sources, a microscopic fungi (!) or any other material thing, the air will be the only vehicle, at most, and therefore should not be charged as the cause of so much evil."

He adopts the term hyper-thermia, not to convey the idea that the normal degree of heat is bad or injurious, but that a long-continued high solar heat, and the changes it undergoes, and the effects it produces, directly and indirectly, causes an abnormal irritability of the nerve-centres of the human body, which results in disease."

The following paragraph seems to be a summary of the theory the author hopefully expects will displace the "old *material* notion" of malarial fevers:

"The decrease and the increase of the body temperature, the chill and the fever, the depressed and the accelerated heart's action, pulse and respiration; the coated tongue and anorexia; the constipation and diarrhoea or dysentery; the deranged urinary and biliary secretions; the headache, delirium, convulsions and coma; the derangement of the intellect; sensation and voluntary motion; the neuralgic pains; the functional and organic diseases of the liver, spleen, lungs, stomach, intestines, and skin; anaemia, chlorosis,

hydræmia—are not the immediate result of excessive heat, but they are the immediate result of unduly irritable nerve-centres, whose office it is to govern temperature, circulation, respiration, nutrition, voluntary motion, etc. : and this abnormal irritability, or lack of potentiality of the nerve-centre, is undoubtedly the effect of excessive heat.”

If the thermal theory is to supplant the malarial, it will be after our author, or some author has had “time for a fuller elaboration.” At present we prefer to be “beguiled by the old theory.”

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### AN ATTACK OF MEASLES AFFORDS NO PROTECTION AGAINST DIPHTHERIA.

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*To the Editors of the North Carolina Medical Journal:*

Soon after my return from Greensborough, I set about the task of hunting up evidence bearing on the question of antagonism of measles to diphtheria, raised by Dr. McCormack's letter to Dr. Grissom which was read before the Medical Society at Greensborough. My inquiries as you see, have been limited: but they seem conclusive. So far as our cases are concerned they prove positively that a previous attack of measles does not exert any restraining influence over the fatal tendency of diphtheria.

My observations extend to twenty-two cases of diphtheria, of which eighteen died, and four recovered. Of the whole number, eight had had measles and fourteen had not had measles. Of the eight cases that had had measles, *every single one died*. Of the fourteen cases that had not had measles, ten died and four recovered.

These cases speak for themselves, and lead to the conclusion that Dr. McCormack's record of his experience is simply a record of coincidences which will probably not be corroborated.

It is important to note in this connection, that prior to the diphtheria epidemic referred to above we had not had an epidemic of measles since 1872. The fourteen cases that had not had measles were all, with one exception, born since that date, therefore more liable, because of their tender years, to succumb to the disease, as well as the more liable to contract it.

Respectfully, CHARLES DUFFY, JR., M. D.  
NEWBERN, N. C., June 2d, 1879.



## CURRENT LITERATURE.

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### TREATMENT OF INJURIES OF THE SCALP.

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“The hemorrhage from such wounds is generally but moderate, and in a short time ceases spontaneously. If it does not the application of a compress wet with cold water, and a moderate amount of pressure by means of a suitable bandage may be advisable. If, however, the bleeding is profuse, and if a vessel of some size is wounded it is generally best to secure it without delay by ligatures applied one on each side of the bleeding aperture in its walls. The hair should be removed from the scalp in the vicinity of the wound to a considerable distance on every side of it. Foreign bodies should be carefully searched for and extracted. The foreign substances most frequently found in gun-shot wounds of the scalp are the projectile itself or portions of it, hairs, fragments of the wounded man's hat or foraging cap, buttons, bits of metal torn from the soldier's uniform or equipments, and patches or wads if smooth-bore rifles or bird-guns are the weapons. Sometimes particles of powder are sticking in the wound, and, in rare instances, a tooth, a fragment of bone, or bit of clothing from a wounded comrade previously struck by the same bullet, which had been carried forward in its flight.

“All foreign bodies having been removed, bleeding staunched, and the wound thoroughly cleansed with warm water, the dressings should generally be light, and such as favor the separation of the eschar, and soothe the wound, *e. g.*, the water, or some other emollient application. Inasmuch as we do not expect to obtain union by primary adhesions, it is in general not necessary to coapt the edges of these wounds nor to secure them in any way by sutures, or plasters, or bandages. In exceptional cases, however, for example, when a portion of the scalp is stripped off by a fragment of shell, and still hangs by its edge, it is advisable to restore it as nearly as possible to its natural position, and retain it there by suture, and plaster, and bandage. Cuts of the scalp made by sharp splinters of exploding shells may sometimes be advantageously treated on the same plan. But in the large majority of the cases of gun-shot wounds of the scalp the objects of the local dressings

should be to soothe the inflammatory excitement, to promote the eschar, and after it has been cast off, to favor the granulating process. All accumulation of pus in the wound should be prevented, and to that end counter-openings should be made whenever necessary. Seton and fistulous canals should be cleaned at least once a day by syringing. If the inflammation is but slight, which fortunately obtains in most instances, some anti-septic and moderately stimulating lotion applied to the wound on a compress that is frequently changed, such, for example, as rectified spirit and water (part 1 to 4), or liquor soda chlorinat. (part 1 to 20), or a weak solution of carbolic acid (part 1 to 100), are generally found useful. If, however, the slough be extensive and the odor very rank, a stronger solution of carbolic acid (1 to 10), or of liquor sodæ chlorinat. (part 1 to 4), may be advantageously applied. After the process of cicatrization has commenced, and the wound has begun to contract, if the granulations are large, pale and flabby or weak, it is generally advisable to apply some dry dressing such as lint alone, or lint smeared with Peruvian balsam, or with resin cerate, and administer tonics internally, especially certain preparations of iron. The sesqui chloride of iron in the form of pill or tincture is one of the best chalybeates on account of the ease with which it is assimilated. When it is advisable to administer a bitter tonic along with a chalybeate, the citrate of iron and quinia is a convenient form for exhibition. If the granulations become exuberant they should be cut down with lunar caustic, or snipped off with scissors."



## PUT MONEY IN THY PURSE.

A favorite theme with the medical commencement orator is that ours is a profession and not a trade; the object of a trade being to make money, and of a profession to do good to mankind. If it be meant by this that one is not liable to make money by the practice of physic, it is all very well; but if it be meant that one does not and ought not to try his best to do so, it is balderdash.

When any one enters upon the study of medicine he has precisely the same object in view which has the mechanic's apprentice or merchant's clerk. He means that his work as soon as possible shall gain him a livelihood : he hopes for independence thereafter, and until he is chilled by disappointment has occasional visions of fortune farther on.

It is the sheerest nonsense to tell young men, and often old ones, too, who have raked and scraped their means together, and perhaps mortgaged their futures, to undergo the hardships of the benches and the perils of the students' boarding-house, that they have done so to fit themselves for a purely missionary work. They know that it is not so, and it is highly honorable that it is not so. "He that does not provide for his own household is worse than a heathen," were the words of one who also declared that "the greatest of these is charity."

The words of St. Paul are nowhere more applicable than to the profession of medicine. He knew full well that without money half the usefulness of the doctor is gone. He who is ever on the alert with the gifts of his services—or, what is a more common error, is careless in demanding proper recognition for his work—sins trebly—against himself, against his profession, and especially against those whom he thinks he serves. It may be his own affair when the doctor wrongs himself—albeit that besides money he loses too, in respect—and if his wife's gown be faded, and if his children be out at elbows, it is her back and their arms and his eyes that are most offended ; but he who enters the profession of medicine has duties to perform to the guild he has chosen.

Shall he always have money for his work ? Shall he demand the full fees of the schedule irrespective of the condition of his patient ? By no means. Such a declaration would be as silly as it would be inhumane. While all the giving of this world is not committed to the doctor, he has—especially if he be young—a special heritage in the poor, without whom clinics would stop and practice be a matter for graybeards only. But this is his opportunity, and he performs but his duty to himself when he embraces it. And again, while all the courtesies of the world are not committed to the doctor, he has his share to perform, and should do it gladly, rendering his services cheerfully and delicately to those who must not pay :

and so, too, shall he bear his part as a citizen, says the Code, and lend his services to the public good in proper matters for his concern. These are the doctor's duties. It were cant and coarseness to call them charities. For these, too, has he ample opportunities—more than most men—in his daily life, among rich and poor and high and low, not in doing and giving only, but in sympathizing with distress, in bearing with human weaknesses, in conquering himself.

The doctor has no right to lower his profession in the eyes of the world, and so injure its usefulness. He who is careful in his business affairs, and charges those who are able to pay and should pay the full measure for his services, and sees to it that they are paid for not by suits, which are abominations, but by educating his people to pay, may gain the name of closeness, but really he is doing far more to raise his profession in the world's respect than the slipshod fellow who lets his bills go by from laziness, from lack of method, or from fear of giving offense. Not good-hearted, but rather chicken-hearted is he. We cannot alter the laws which make money or labor the unit of values. See how vain it is when the poor wretch for whom you have done your best saves from his miserable earnings a fee to pay not you, but another whose skill must be better, for it costs to get it. We cannot change human nature, for witness the seemingly astonishing abuse and detraction which is given in return for unpaid services by way of asserting independence, and see how low is our profession held by public officers when they see how the unpaid positions of doctors in the public service are eagerly sought for by members of the profession. "What do I care for doctors," said an astute ruler. "when I can buy them for a dollar a head?" A dear price, we are sad to think, it would be to pay for some.

And if the doctor—not through carelessness or ignoble fear of offense, but instigated by higher motives of supposed charity—do not demand his dues, grossly is he mistaken in the amount of good he does. We will not stop to consider the harm that is done by indiscriminate free medicine in destroying the independence—pauperizing the souls—of those who accept it: that is a well-worn theme; but point we for a moment to the valuelessness of free medicine. Whatever the amount of skill that is shown, no matter

care is given, it is a rule that free medicine loses in its effect. If there be some who in the nature of things do not pay for our services, it is their misfortune. The poor do not recover like the rich, and one reason is that among the comforts that they are denied is that of paying the doctor. Our most brilliant successes are certainly not among those who by courtesy are exempt from our fees; nay, it is even a misfortune, so far as health is concerned, for this patient to be joined to us by family ties, and thus be forced to escape our bills. Twenty years did the obstinate Fatima withstand the faith of her husband Mahomet, though millions who paid for his ministrations found comfort in his train.

What, then, is the end of this? Plainly, that we shall not make a charity of our business or business of our charity, no less for the good of our patients than of our pockets. Let us not deprive them of a single chance for their welfare when we can help it, and keep steadily in view that not by drug alone, but by ducat, is health regained.

The most important therapeutical law which has been enunciated since quinine came in use was made by Mr. Tuke, when he declared that imagination and the unseen forces "should be yoked to the car of Phœbus Apollo," and made so do their part in hauling that life-machine out of the ruts in which it may have fallen. As great, too, is the force of money in view or the prospect of pay. It quickens the faith of him that gives it, unlocks stores of wisdom in him that receives. Would that these words could reach a very important party in the action. To him whom we can address, however, do we say it—put money in thy purse when you can, my brother, that the world may respect us and that our ministrations may not fail.—*Louisville Med. News.*

The above very sensible article, like many others published by our estimable cotemporary, has made for the *Medical News* an enviable name. We always welcome this journal to our table, and never fail to read it, not only for its incisive wit, but for the peculiar ability shown on all themes, before the profession, and also for the discriminating judgment evinced in its selected matter, together with the broad field from which the selections are made. The last issue, June 21st, completed the sixth volume, and we congratulate our friends on the evidences of their prosperity.—EDS. N. C. MED. JOURNAL.

## A NEW THEORY OF FAT FORMATION.

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We condense from an editorial in the London *Lancet* the following :

“The recent labors of physiologists have cast no little doubt upon the old views, and the last writer on the subject of corpulence (Immermann who contributes an article to Ziemssen’s ‘Encyclopædia’) throws over the old views entirely, and adheres absolutely to the doctrines put forward by modern physiologists.

“It is now held that fat is formed principally from the albuminous elements of the food, just as the fat in fatty degeneration of the tissues, is derived from the organized albumen of those tissues. The albuminates, eaten with the food are used in part for the nutrition of the albuminous tissues, and the surplus which is not so used undergoes continued processes of metamorphosis and oxidation, and appear among the excretions in the form of urea, uric acid, carbonic acid and water. If, however, the albumen taken in with the food be in excess of the requirements, or if the obstacles stand in the way of its proper oxidation within the body, then a great part is deposited in the form of fat, instead of being burnt up into carbonic acid and water.

“The formation of fat from albuminates would appear to be greatly favored by this incomplete combustion, and when the fats and hydrocarbons are taken with the food as well as albuminates, the former, as regards a dividend of oxygen, are in the position of preference shareholders, and until their claims for oxygen are satisfied, the non-nitrogenous products of the decomposition of the albuminates get a scanty supply, and must be content to remain in a condition of penultimate metamorphosis.

“From this it will be manifest that, apart from diet, a deficiency in the supply of oxygen favors obesity. This is evident, whether the deficiency be due to sedentary occupation or to a want of red blood corpuscles to carry the oxygen to the tissues. On the other hand a good supply of oxygen, which is favored by rich blood and healthy exercise in the open air, favors the complete combustion of the food and diminishes the tendency to obesity.

\* \* \* \* “Whether the albuminates or the hydrocarbons be the immediate source of the fat, it is evident that by cutting off the

latter from the diet we stand the best chance of attaining a diminution of the superabundant adipose tissue. By permitting the patient to consume a fair proportion of albuminates, we keep his tissues well nourished, prevent anaemia, and encourage the activity of function which is the greatest enemy of undue corpulence; while by cutting off the hydrocarbons we necessitate a thorough combustion of the albuminates, which thus form water instead of adipose tissue."

The *Lancet* also calls attention to the observations of Brillat Savarin on obesity made fifty years ago.

He insisted on (1) discretion in eating, (2) moderation in sleeping; and (3) exercise on foot or on horseback; but at the same time he remarks that his knowledge of human nature tells him that the self-indulgent mortals to whom he preaches will turn a deaf ear to all his good advice. Brillat's diet consisted in excluding farinaceous articles, such as Italian pastes, rice, potatoes, maccaroni, and white bread. In addition he was most particular not to allow eggs, as if his observant eye had foreseen what physiological chemistry has just told us.

He replaced the greater number of farinaceous articles by toast and rye bread, of which latter he astutely observes, people are certain not to eat too much. To allow a sufficient interval between the meals, and always to rise from a meal with appetite, were amongst the precepts which he thought it right to give. These were the precepts of Savarin in 1825; they were the precepts of Banting in 1869, and are the precepts of Immermann in 1818.

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The art of sugar-coating pills so as not to impair their solubility, but to preserve the composition, keeping it soft and plastic, has acquired for Messrs. Warner & Co., a world-wide reputation. Physicians may rely upon the purity of the drugs used, and upon the mathematical nicety in which their pills, "granules," and "parvules" are divided. Every doctor may be his own druggist, and at the same time save himself the drudgery of it by using Warner's preparations. A bottle of quinine pills recently sent us by this firm satisfies us that this form is fully maintaining its reputation.

RHYMES OF SCIENCE: Wise and Otherwise. With illustrations.  
New York: Industrial Publication Company. 1879.

We do not see why the compiler did not go further and give us more of the good verses known to the public, but not yet collected.

Here is a verse from Professor Edward Forbes' "Exposition of Buckle's creed."

"Would we know what men must do,  
Let us watch the kangaroo;  
Would we learn the mental march,  
It depends on dates and starch.  
I believe in all the gases  
As a means to raise the masses;  
Carbon animates ambition;  
Oxygen controls volition;  
Whate'er is good or great in men,  
May be found in hydrogen;  
And the body—not the soul—  
Governs the unfathered whole."

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POSOLOGICAL TABLE: Including all the Official and the Most Frequently Employed Unofficial Preparations. By CHARLES E. RICE, Chemist. Department Public Charities and Correction. New York. Wm. Wood & Co., 29 Great Jones Street. 12 mo. Pp. 96.

This work is intended to give the doses of official and unofficial remedies at a glance. The subjects are arranged alphabetically, and conspicuous signs indicate whether or not the article is official or poisonous, &c., &c. As far as we have detected, every dose is giving accurately, and the doses stated are within the bounds of great prudence.

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PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A. M., M. D. Forty-eight colored plates taken from life. New York: E. B. Treat, No. 85 Broadway. Price \$2.00 a part.

This work is to be issued in twelve monthly parts, each part consisting of four plates printed from original photographic negatives on fine card board 10x12 inches, with eight pages of descriptive text.



The number before us (Part I.) contains photographs of comedo, acne vulgaris, lepra tuberosa, and elephantiasis. It would be unfair to institute a comparison between photographic illustrations, and the more expensive illustrations in lithography in Duhring and Fox, and Hutchinson and Hebra, and Willan, but as a means of instruction these photographs will crowd out the more costly publications. Dr. Fox's photographs, are used by some of the most eminent teachers of dermatology in this country, and surely no higher praise need be given them.

The coloring is done by an anatomical artist, Dr. Gaertner, and is entirely free from the exaggeration which is the too frequent fault of all illustrations for medical works. The photographs are by a new process, and are warranted "not to fade through age and exposure to light."

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HEARING AND HOW TO KEEP IT. By CHARLES H. BURNETT, M. D. Aurist to the Presbyterian Hospital. Philadelphia, Pa. : Lindsay & Blakiston. 1879.

This is one of the promised series of Health Primers to be issued by the well known Philadelphia publishers, and will prove a very acceptable volume to the class of readers for whom they were designed.

For many years the medical profession has considered it a desideratum to propagate popular teaching of the functions of the body in just this shape, and we hope now that commencing with this work on Hearing, each volume will be carefully examined, and if found worthy, its circulation promoted.

A careful examination of this volume will satisfy the reader that Dr. Burnett has presented the subject with the ability of a good teacher.

The illustrations are clear and good, beginning with the "Diagram of the Entire Auditory Apparatus of Man," the frontispiece.

The first division of the work treats of the Structure of the Ears, the second of the Physics and Physiology of Sound, Diseases of the External and Middle Ear, the care of the ear in health and in disease. We predict for the little pioneer a large circulation.

NATIONAL BOARD OF HEALTH BULLETIN.

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The Bulletin which has long ago become a necessity, owing to the energy and accuracy with which a similar publication was inaugurated by the late Surgeon-General Woodworth, is just received, dated June 25th. State and local Boards of Health have the double advantage of gleaning for their own information and for the satisfaction of those who are daily propounding anxious questions to them about the health of certain localities, and also as a medium for reporting the condition of the State or city over whose health affairs they preside.

The National Board acknowledges their indebtedness to Surgeon-General Hamilton for the data upon this first report is made, and solicit the aid of health officers everywhere, by notes of the occurrence of epidemics.

The Bulletin announces that the Commission to examine Yellow Fever in Cuba sailed on the 3d of July. It is composed as follows: Dr. Stanford E. Chaillé, Dr. Geo. M. Sternberg, Dr. Jno. Guiteras, Col. Thos. S. Hardee. These gentlemen are well known, and carry with them the confidence of the profession in America.

The objects of this Commission are as follows :

1st. To ascertain the actual sanitary condition of the principal ports in Cuba from which shipments are made to the United States, and especially the ports of Havana and Matanzas; to determine how these sanitary conditions can best be made satisfactory, and especially as to what can and should be done to prevent the infection of the shipping at these ports by yellow fever.

2d. To add to our knowledge as to the pathology of yellow fever.

3d. To obtain information with regard to the so-called endemicity of yellow fever in Cuba, and the conditions which may be supposed to determine such endemicity.

The Commission will also endeavor to find some means of recognizing the presence of the immediate cause of yellow fever other than the production of the disease in the human subject.

The Commission is well supplied with microscopic and photomicrographic apparatus, and has a photographer and clerk attached.

The Commission will be absent about three months, at the end of which time it is expected that it will present a preliminary

report, and advise as to the direction in which investigations upon yellow fever can be best made in order to produce substantial advance in our knowledge of that disease.

The National Board of Health, as constituted under this act, is composed of the following members :

Preston H. Bailhache, M. D., U. S. M. H. S., Maryland.

Samuel M. Bemiss, M. D., &c., Louisiana.

John S. Billings, M. D., U. S. A., District of Columbia.

Henry I. Bowditch, M. D., &c., Massachusetts.

James L. Cabell, M. D., &c., Virginia.

Hosmer A. Johnson, M. D., &c., Illinois.

Robert W. Mitchell, M. D., &c., Tennessee.

Sam'l W. Phillips, Esq., *Solicitor-General*, District of Columbia.

Stephen Smith, M. D., &c., New York.

Thomas J. Turner, M. D., U. S. N., District of Columbia.

Tullio S. Verdi, M. D., &c., District of Columbia.

The Secretary of the North Carolina Board of Health hopes to send weekly bulletins of deaths from Raleigh, Wilmington, Charlotte, Salisbury and Newbern by the 1st of August.

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## AMERICAN HEALTH PRIMERS.

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Messrs. Lindsay & Blakiston are issuing the following volumes to be issued about once a month.

Hearing and How to Keep It.—By Charles Barnett, M. D., of Philadelphia.

Long Life and How to Reach It.—By J. G. Richardson, M. D., of Philadelphia.

Sea Air and Sea Bathing.—By Wm. S. Forbes, M. D., of Philadelphia.

The Summer and Its Diseases.—By James C. Wilson, M. D., of Philadelphia.

Eyesight, and How to Care for It.—By Geo. C. Harlan, M. D., of Philadelphia.

The Throat and the Voice.—By J. Solis Cohen, M. D., of Philadelphia.

The Winter and Its Dangers.—By Hamilton Osgood, M. D., of Philadelphia.

The Mouth and the Teeth.—By J. W. White, M. D., D. D. S., of Philadelphia.

Our Homes.—By Henry Hartsborne, M. D., of Philadelphia.

The Skin in Health and Disease.—By L. D. Bulkley, M. D., of New York.

Brain Work and Overwork.—By H. C. Wood, Jr., M. D., of Philadelphia.

Other volumes are in preparation: "Preventable Diseases," "Accidents and Emergencies," "Towns we Live In," "Diet in Health and Disease," "The Art of Nursing," "School and Industrial Hygiene," "Mental Hygiene," &c., &c.

The series is under the editorial management of W. W. Keen, M. D., of Philadelphia.

We bespeak a careful consideration of this new list, now that the question of preventive medicine in North Carolina will be the uppermost theme for the next twenty years.

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## THE MEDICAL HERALD.

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This is a new monthly journal which by inadvertence we overlooked. It is published in Louisville, Ky., by Dr. Dudley S. Reynolds with every promise of success. Its editor has industry and ability, and cannot fail to have his share of professional patronage. Subscription price, \$2.00 a year.

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*The Perincosinuercruinator.*—Jacques Robinson, A. M., M. D., Surgeon to the Hospital for Ruptured Vesicles, Member of the Anteversion Society and Round Ligament Club," will please accept our thanks for his monograph on the above subject. The doctor surely must have studied very closely the instruments exhibited before the Section on Gynecology at the Atlanta meeting of American Medical Association.

## MEDICAL ANNOTATIONS.

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*The Import Duty on Quinine Removed.*—We are now to have free quinine! And then what? Will the prices now paid be materially decreased? We will see. The doctors who keep their own drugs will be still at the mercy of the retail druggists, and the retail druggists at the mercy of the speculators, and after all quinine is not so free as it is expected to be.

It is very much to be deprecated that Congress should abolish the duty on quinine, without they do this as an assurance that this is the initiation of the policy of free trade.

We do not speak as politicians, but if a law is to be passed abolishing the duty on quinine for no other reason than that it is an expensive alkaloid, then it ought to extend to opium and other articles. The friends of the movement will see that if there has been a large margin in the favor of the manufacturer and druggist before, that margin will still be out of their reach with free quinine.

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*The North Carolina Dentists.*—The dental profession have shown commendable zeal in their progress in the last few years. Their organization into a Society has been effected in the last five or six years; but by united effort they succeeded in having a law passed by the last legislature, creating a Board of Medical Examiners, with powers similar to those granted to the medical profession. We wish them all the success attainable, and congratulate them on this radical reform they have undertaken. We do not know whether the dental profession is as much in need of moral reform as the medical profession; but if it is, the work of the Board of Examiners is going to be a difficult one.

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*Excision and Regeneration of the Scapula.*—Dr. Mikulioz brought before the Vienna Medical Society, a girl ten years of age, upon whom Professor Billroth had performed the sub-periosteal excision of the scapula, the bone, at the time of exhibition (three-quarters of a year after the operation), having become almost completely regenerated. An incision having been made parallel to the spine of the scapula, and another perpendicular to this opening into the shoulder-joint, the bone was easily raised from its periosteal covering, the raspatorium being required at its edges and projecting parts, and the coracoid process and acromion being nipped off. The wound healed by first intention, only two of Lister's dressings being required—the first for six, and the second for eight days. The new scapula is somewhat smaller in all its dimensions, and the acromion is only rudimentary. The arm performs its functions quite well, except that the power of raising it is somewhat defective. The completeness of the movements of the upper arm leads to the

conclusion that a new joint has been established. There is only one other case (Linhart's) of complete regeneration of the scapula recorded in medical literature; and it is of much interest, as showing the great reproductive power of the periosteum. In experiments upon animals, the scapula has always shown itself as especially disposed to regeneration.—*Wien. Med. Woch.*, Jan. 11.

*Spontaneous Fires.*—A useful hint may be taken from the following paper, lately read on the subject, before the French Academy of Sciences by M. Casson, in whose laboratory an outbreak of fire had occurred in consequence of the action of a current of air at a temperature of only about 77° Fahr. This had ignited some boards; and thus originated what would probably have been a serious conflagration had it occurred at a time when M. Casson was not there at once to extinguish it. Some members of the Academy offered confirmatory evidence as to the power of only warm air to ignite wood exposed to it for a considerable time. It was stated that pulverized charcoal, owing to its power of rapidly absorbing air, will often ignite spontaneously. After long exposure to warm, dry air, the woodwork of a house is frequently reduced to a condition similar to that of this charcoal powder. It is brought down to a porous, spongy state, capable of rapidly assimilating oxygen, and therefore of generating intense heat. An unsuspected danger may, from the causes here stated, often be imminent, and probably is the origin of many of the mysterious fires which occur.—*Med. Times and Gazette*.

*Transplantation of Teeth.*—Among the re-discoveries in surgery is the transplantation of teeth, a feat which John Hunter performed successfully about a century ago. The transplantation of syphilis then as now was the disaster that soon eclipsed the brilliancy of it.

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## TO OUR READERS.

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### PORT GRAPE WINE FOR SICKNESS.

Decidedly one of the nicest and most creditable of any article of Wine we have ever seen, is the Wine bearing the above name made from the Portugal Port Grape cultivated by Mr. Alfred Speer, of Passaic, N. J. This wine under the hand of Mr. Speer, has been brought to a state of great perfection. It possesses the very highest medicinal virtues, and certainly as an article of beverage it is not, in our judgment to be surpassed in color, taste, or any of the qualities which constitute a pure, mild and agreeable wine.—*Boston Transcript*. Salesroom 34 Warren street, N. Y.

## OBITUARY.

TILBURY FOX, M. D.

Dr. Tilbury Fox died suddenly on June 7th, while on a visit to Paris. Dr. Fox, who was 43 years of age, was especially distinguished as an authority on skin diseases. He was the author of "Skin Diseases of Parasitic Origin, their Nature and Treatment," published in 1863; "The Classification of Skin Diseases," published in 1864; "Skin Diseases; their Description, Diagnosis and Treatment," which reached its third edition in 1872; "On Eczema, and incidentally the Influence of Constitutional Conditions in Skin Diseases," published in 1870; "The Atlas of Skin Diseases," published in 1875; and "The Epitome of Skin Diseases," which reached its second edition in 1877. In 1875, with Dr. Farquhar, he issued a report upon the endemic skin diseases of India. He contributed various papers and clinical lectures on skin diseases to many of the medical papers.

A. E. WRIGHT, A. M., M. D.

After a long and weary illness of many months, Dr. Wright died in this city of apoplexy.

He graduated at the University of North Carolina in 1853, and in medicine at the University of the city of New York in 1856.

He received one of the earliest commissions as Surgeon from the State, and was in charge of a general military hospital for almost the entire period of the war.

He was chosen Superintendent of Health for the city in 1876, which post he filled until stricken with paralysis in 1878.

His many friends throughout the South will receive the announcement of his death with many a kindly word of sympathy and regret.

His last days were the peaceful days of a Christian physician.

We announce with sorrow the sad news of the death of Mrs. Warren, the accomplished wife of Dr. Edward Warren (Bey), in Paris.

## BOOKS AND PAPPHILETS RECEIVED.

Diseases of the Intestines and Peritoneum. By John Sayer Bristowe, M. D., J. R. Wardell, M. D., J. A. Bigbie, M. D., S. O. Halershon, M. D., T. B. Curling, F. R. S., and W. R. Ransom, M. D. New York. Wm. Wood & Co. 1872. Pp. 243.

Bulletin of the American Metric Bureau. Merit Dewey, Secretary. General offices 6, 7, and 8, 32 Hawley street. Boston. 1878.

On the variability of *Sparia Quercum* Schro. By J. B. Ellis. Reprint from proceedings of the Academy of Natural Sciences.

Posture as a Means of Relief in Strangulated Hernia. With a general consideration of the Mechanism of Reduction. By Frank H. Hamilton, A. M., M. D. Reprint from Hospital Gazette, 1879.

The Radical Cure of Hernia by the Antiseptic Use of the Carbonized Catgut Ligature. By Henry O. Marey, A. M., M. D., Cambridge, Mass. Reprint from Trans. Am. Med. Association.

Other Symptoms of Nervous Exhaustion, (Neurasthenia). By George M. Beard, A. M., M. D. Reprint from Jour. Nerv. Dis. Chicago, Ill. 1879.

Lectures on Electricity in its Relation to Medicine and Surgery. By A. D. Rockwell, A. M., M. D., etc., etc. New York. Wm. Wood & Co., 27 Gt. Jones Street, N. Y.

First Annual Report of the State Board of Health of the State of Rhode Island for the year ending Dec. 31st, 1878.

Hints on Obstetrical Procedures. By Wm. B. Atkinson, M. D. D. G. Brinton. Philadelphia. 1879.

Hints in Obstetric Procedure. By Wm. B. Atkinson, A. M., M. D., Philadelphia, Pa. D. G. Brinton, 115 South Seventh St. Pp. 120.

Some Notes on the Treatment of Ulcers of the Cornea. By C. W. Hickman, M. D. Augusta, Ga. Jas. L. Gaw, 1879. Pp. 11.

Paresis of the Sympathetic Centres from over Excitation by High Solar Light, Long Continued and Suddenly Withdrawn, etc. So-Called Malaria: Its Etiology, Pathogenesis, Pathology and Treatment. By Charles T. Reber, M. D. Pp. 12—IV. St. Louis. Geo. O. Rumbold & Co. 1879.

A Biographical Sketch of the Professional Career of the Late Professor Eli Geddings, M. D. By Drs. F. M. Robertson, F. L. Ogier and J. P. Chazal. Pp. 71.

Fourth Annual Report of the State Board of Health of Massachusetts. January, 1879. Boston. Rand, Avery & Co., Printers to the Commonwealth, 117 Franklin street. 1879.

Rhymes of Science: Wise and Otherwise. With illustrations. New York: Industrial Publication Company. 1879. Pp 66. 12mo.

An Address Commemorative of the Life and Writings of the Late Professor Charles Frick, M. D. Delivered before the Alumni Association of the University of Maryland. By Prof. Frank Donaldson, M. D. Baltimore. J. H. Foster & Co. 1879.

Cephalic Version by the External Bi-Polar Methods. Arrest of Profuse Post-Partum Hemorrhage with Tincture of Iodine. By Jno. S. Coleman, M. D. Augusta, Ga. 1877.

The Non-Asylum Treatment of the Insane. By Wm. A. Hammond, M. D. Read before the Medical Society of the State of New York. 1879.

Chloral Inebriety. By J. B. Mattison, M. D. Brooklyn, N. Y. Reprint from the Proceedings of the Med. Society of the County of Kings. May, 1879.



# NORTH CAROLINA MEDICAL JOURNAL.

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M. J. DeROSSET, M. D.,  
THOMAS F. WOOD, M. D., } Editors.

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Number 2.      Wilmington, August, 1879.      Vol. 4.

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## ORIGINAL COMMUNICATIONS.

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### MODERN THERAPEUTICS IN ITS RELATION TO EXIST- ING PHYSIOLOGY.

Annual Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879.

By WILLIAM W. LANE, M. D., Wilmington, N. C.

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*Mr. President and Gentlemen of the Society, Ladies and Gentlemen :*

Before entering upon the subject matter of my remarks, Mr. President, I feel that I should be recreant to my obligations to my fellow members of the State Medical Society if I did not first thank them for this manifestation of their esteem, to an humble member of their body.

When, Sir, I look around me and see so many prominent gentlemen of the profession, men qualified to dignify any position to which they might be called, not only in our State organization, but who might fill with honor and credit the Professor's chair. I feel, indeed, how unwise the choice has been in selecting me as your speaker on this occasion.

Mr. President, I utter no fulsome flattery when I say the Medical Society of North Carolina is composed of no ordinary men. They are men whose lives are devoted to study and the investigation of scientific truths. Their labor is one of humanity! I feel proud of my association with such men, and my membership with this time-honored Society, and can remember no time in my life, when my breast was more full of honorable pride than it is to-night, in occupying my present position.

I regard it as no mean honor to be privileged to address so distinguished a body, coming as they do, as representatives of sections of our good old State. I say time-honored, for there are few of those who met in its organization twenty-six years ago, now with us in our yearly meetings; but the Society has grown in strength and usefulness. It not only brings us together each year in social re-union, where we can have that interchange of views so necessary in keeping bright our medical knowledge, but it has elevated the standard of professional men not only among themselves, but in the estimation of the laity. The Medical Board of Examiners have accomplished much in this direction, and it is to be hoped no young man who proposes to practice medicine in North Carolina will neglect presenting himself before this Board, and obtaining their certificate of his worthiness and proficiency.

It would probably be interesting to state here, a fact connected with the early history of medicine in our State, and one, perhaps, few or none of the present members of our Society, have any knowledge of. It seems that as far back as 1799 or 1800, the Medical Society of North Carolina was chartered by the Legislature. So far were they advanced in 1801 that prizes were offered for the cultivation of certain drugs formerly imported, such as rhubarb, in quantity not less than five pounds, opium not less than five pounds, castor oil, &c. At the same time also, a candidate for membership, after being examined in open meeting by the Board of Censors, was admitted.\* The Society was again revived in 1849. In 1859, ten years after the reorganization, the present Board of Medical Examiners was created by the Legislature, which has been in operation ever since with the exception of four years of war.

The provision of this law is well known. During the dark period

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\*North Carolina Medical Journal, May, 1879.

of our existence in 1868, a strong effort was made by one Rev. Welker, a member of the Legislature to repeal the law; but through the able exertions of Dr. C. Tate Murphy, a fellow of our Society, and then in the Senate, this attempt was frustrated.

It is worth while to state, that it so happened that the estate of Senator Welker was saved from the clutches of a quack, through the instrumentality of the very law he attempted to defeat, the claim of the man who had attended him in his last illness, was denied on the plea of his having no license to practice under the statute of 1859. On the refusal of his bill he made application to the Board of Examiners for license; but was refused on grounds sufficient to the Board.\*

The public and private good derived from such an organization and its influence upon society at large is incalculable. Let us see then that we do our full duty to ourselves and to our people, not lagging in professional zeal, but showing our work lies upon an elevated plane above the ordinary avocation of life, and that money paid for services rendered, however necessary to our maintenance, is not the sole object of our lives.

Society looks up to us for aid and advice, not only in all the afflictions of domestic life; but also in all matters of general hygiene, pertaining to the public interest.

We cannot expect the public to estimate us by any other than that of our usefulness: a practitioner may be a gentleman of high education, accomplished in all the requirements of his art, a diagnostician of acknowledged ability; yet, he must possess that tact which renders him an agreeable companion, and the affability that makes him accessible to all the classes; and above all, he must inspire the confidence and ability to relieve his patient of the various diseases and injuries we are subjected to.

The important bearing, Gentlemen, that modern physiological enquiry is now having upon practical medicine, and the increased importance given to the subject by the great medical thinkers and workers of the present epoch, has induced me to select "Modern Therapeutics in its Relation to Existing Physiology," as the subject of my remarks on this occasion. In the earlier days of our art, and in many instances even now, our practice was little more than a

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\*North Carolina Medical Journal, May, 1879.

rational empiricism, based frequently on the experiences of our predecessors, and the necessity and urgency of the case.

The anatomy of the human body was little known, and that was comparative, drawn from the examinations and dissections of the lower animals : physiology as we now understand it was unwritten.

We can only appreciate our present knowledge of therapeutics, by noting the progressive stages of the art, as handed down to us from the earliest times.

Particularly are we indebted to physiological chemistry for the explanation of many of the phenomena of life, and we may confidently expect still further light to be thrown upon the laws of nature, which are now hidden mysteries. By its aid are we enabled to study the functions of the parts in their relation to disease, and thereby enabled to apply our therapeutic knowledge intelligently.

The tendency of modern medicine is to positiveness ; the endeavor must be to give a physiological reason for the exhibition of remedial agents. An accurate knowledge of the science of medicine, must be based upon our acquaintance with physiology, or, as it is termed, the science of life.

Our practice cannot be otherwise than empirical unless guided by an enlightened physiology. All the phenomena of life are ordered and governed by physical laws, which, though in many instances, are to us obscure and mysterious, still, must we be directed by the present lights that are before us. Fothergill in his excellent treatise says all therapeutics, whether curative or palliative, must rest, if they aspire to be rational and successful upon a sound comprehension of the nature and exact position of the malady. Much remains to be investigated ; much to be learned, before the science reaches its highest influences. But if such is the case, we should not be discouraged, for many are the able and enthusiastic workers who are arduously laboring in laying deeply and firmly the foundation of a rational therapeutics.

We cannot fully appreciate the present condition of our science, without taking a retrospective glance of the knowledge existing among the ancients in the earliest periods of society. It is a natural enquiry, in reflecting on the present status of medicine, to ask ourselves, what was the origin of our art, and where it began ? It

is interesting and instructive to trace its history from the most remote period of antiquity to the present. Surely those who deny that in the midst of universal progress, medicine has not advanced in proportion with other sciences, have studied its history to very little purpose.

Though there is very little doubt that the origin of medicine sprung from the natural wants and necessities of man, still the most ancient account of authenticity, is from the writings of Moses, who tells us that Joseph commanded the physicians to embalm Jacob, 1700 years before the birth of Christ.

But even before this time, the arts and sciences had attained great perfection in Egypt, and which only could have been acquired by centuries of the accumulated wisdom and experiences of her wise observers.

The laws of Moses regulating the public and private hygiene of his people, are well worth imitating even at the present day, and though apparently drawn from the customs of the Egyptians, were really the commands of God himself.

The salutary rules and regulations there promulgated, in their sanitary relations with each other, in the minutest detail, the separation of those who were diseased were made matters of religious duty, and could scarcely be improved upon by any writer of the present day on sanitary science, and shows that hygienic laws governing the health of individuals and communities, were of divine origin.

Later on in the history of the world, we have King Solomon, who, we are told, surpassed all men in his time, and before it, in wisdom and knowledge. Josephus, as well as biblical history, tells us of his wondrous knowledge of all things in nature. He not only knew the name of all plants in the vegetable kingdom, from the cedar of Lebanon to the hyssop that springeth from the wall, but he was familiar with their medicinal virtues, and the compounding of remedies in disease.

It is not likely he drew his learning from books or scientific treatises on these subjects, or that he acquired his information from experience, it was a divine gift, from God to man. In other words, it is probable, yes, almost certain, that many articles of our present *Materia Medica*, daily prescribed by physicians, were made known to man by the great Giver of all good things.

“The Most High has created medicine out of the earth, and he that is wise will not abhor them.”

It was not, however, until the philosophic period in the history of medicine, when the great and original Hippocrates came upon the stage, that therapeutics began to assume that important position in the healing art, that it was destined to take in the future history of the science.

No writer before him has given such a systematic treatise on the subject connected with medicine in that day. Many of his views are even accepted and quoted at the present time. He had, though, no special knowledge of anatomy, and had, probably, never dissected the human body: the prejudice existing in his day which made it unlawful to touch a dead body, was not obliterated until long after his time, consequently he knew little or nothing of physiology. Nevertheless, he had a fair idea of the osseous system, but the muscles which were termed flesh and the tendons, ligaments, &c., were only thought to serve the purpose of covering and giving motion to the body. It was believed that the arteries contained air and the veins blood.

He wrote treatises on air, water, locations and knew much about climatic and topographical influences on the human constitution.

His knowledge of hygiene and therapeutics were the results of experience and observation, and though he left works on fractures and luxations, and their method of reduction, and on wounds of the head and other parts of the body, and the manner of treating them, he threw very little light on the advancement of surgery in that epoch. The great and universal esteem in which the father of medicine was held by his contemporaries, was due as well to his virtues as his genius; he seemed to be actuated not by a desire for reputation, and the powers of society; but by the exalted idea of doing good to his fellow-man, by teaching them the laws of health, and curing their diseases. It was not, however, until the beginning of the fourteenth century, that a ray of light began to pierce the darkness of anatomical research, through the boldness of a Bologna professor in dissecting the bodies of two persons, from which he made illustrated drawings that served for two hundred years the purpose of demonstration. Though it was a century later before any one dared to imitate the bold professor in consequence of the still existing prejudice against human dissection.

But towards the close of the fifteenth century, these prejudices began to subside, and as the Popes who were the patrons and promoters of scientific progress in the arts and sciences, withdrew their objections, public dissections began to be common in Italy and many other places. Among the enthusiastic students of this branch that the withdrawal of these restrictions produced, stands forward preëminently the great Vesalius, whom we all delight in honoring, as the founder of modern human anatomy.

About this time physicians began to observe the effects of organic disease, as shown after death, which rendered them valuable aid in their diagnosis, and was, we may say, the foundation of pathological anatomy, and established the boundary line between ancient and modern medicine.

It appears somewhat remarkable though, that surgical therapeutics should have remained in so feeble a state of advancement for fifteen hundred years after the Christian era, and that only a little over three hundred years ago, Paré substituted the ligature for boiling oil in amputation. But if medicinal and surgical therapeutics have toiled thus slowly along to reach this point on the highway of human knowledge, it has more than made amends in the rapid strides since that time, and particularly in the past century, and culminating in that enlightened physiological therapeutics, it is our good fortune to enjoy at the present day.

We have now arrived at a time of precision in medicine, it might be termed the learned period, though, doubtless, as Flint says, we are yet merely on the threshold of our physiological investigations in many of the hidden laws of life. There has been no period in the history of medicine, when so much has been done. So much aid rendered by existing physiology, to modern medical therapeutics. Modern physiological chemistry has, perhaps, contributed more largely than any other department of human science in advancing our knowledge of the more important phenomena of life. To it are we indebted for what we know of the air we breathe, the water we drink, the methods of digestion and absorption and nutrition of the body; and with the help of the microscope, practical medicine took a long step in a medico-legal direction.

For by its assistance the human blood may be distinguished from that of the lower animals, and even the blood stains upon clothing

or a floor of years duration may be determined with a perfect certainty.

It is in sanitary medicine, however, that has for its object the prevention of disease, and the stamping out of devastating epidemics, that the minds of medical men are now to a great extent occupied. State Boards of Health are being formed in many of the States to carry out by scientific methods, these objects, and even the general government has become interested in the matter, and has passed a national health law by the advice of medical men in the interest of the people. The study of public and private hygiene is zealously occupying the minds of many of the best men in Europe and America, and if the laborious efforts of our professional workers, receive that encouragement from those in power in the government, that the magnitude of the subject demands, it will mark this era as the time when the most important movement for the good of mankind was ever made in the history of medicine.

From the terrible epidemic of yellow fever that visited the South western portion of our country last season, extending from the Gulf to the latitude of Memphis and beyond, many valuable lessons may be drawn. The previous known habits and movements of the disease seemed to have been utterly ignored in this last visitation.

Little is known of its etiology, unfortunately medical men differ in regard to its origin, the weight, however, of authority is with the importation theory.

I have no doubt the disease is of exotic growth, though receiving in each place of visitation its peculiar characteristics from local causes.

Thus, in New Orleans the disease seemed to be genuine yellow fever, whereas in Grenada and Memphis the impression made upon it by local influences, gave it more the form of a plague.

Dr. Belot, of Havana,\* perhaps, as good authority as we have, thinks the disease is *totius substantiæ*, produced by miasmatic poison, *sui generis*, the antidote of which is unknown, the only medical treatment being that of the symptoms; and the febrile orgasm nothing more than the energetic reaction to eliminate the poison.

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\*North Carolina Medical Journal, January, February, March, April, 1879.



The appointment of a medical commission to visit Havana and study the disease where it is endemic, is a step in the right direction, and much valuable information is looked for from this source.

It is in State preventive medicine that we may look forward to a mitigation of the evils of those merciless and depopulating epidemics, that visit us from time to time, and overwhelm us with their awful mortality.

The question of the management of sewage in our large cities is one of prime importance to our people. From the sewage contamination of drinking water arises many if not most of the causes of endemic diseases. Life is poisoned at its fountains. Though the minds of our public councils have not yet learned to heed the warnings of sanitary and medico-legal science, it is speedily being discovered that the harbors and rivers are not the proper receptacle of city sewers.

Here modern chemistry comes to our aid, and shows not only how the contents of sewers may be rendered inodorous, but innocuous, and converted into saleable compounds of the highest utility to the agriculturist.

Though we may consider ourselves merely in our infancy yet, in regard to State Medicine, still the impetus already given the subject, will, undoubtedly, lead in the near future to great developments of practical utility to the public and private health of our people.

In our recent advances in medical and surgical therapeutics, no time in the history of medicine has such progress been made; the means of diagnosis and prognosis have wonderfully improved in the invention of such instruments of precision as the thermometer, ophthalmoscope, laryngoscope, sphygmograph, and others.

In the sphygmograph we have an instrument destined to render valuable aid in the study of diseases now involved in much obscurity, it serves as a test of the progress of acute disease, and shows changes that take place in the human system in health or otherwise of the circulatory, nervous or muscular. In acute disease the vibrations and irregularities of the pulse as shown in the tracings by this valuable instrument, informs the physician of what he may expect, long before it can be ascertained by any other means.

Also by its aid the action of stimulants and the physiological effect of different medicines upon the circulation may be studied

clinically, in the quickest manner without annoying the patient. The possibilities for this instrument for good is great, and will, no doubt, aid materially in illuminating some of the obscure questions in medical science.

We have, also, in the telephone, "though in no respect a medical instrument," a serviceable method of communicating with our patients. Only a short time since a professional friend informed me in Wilmington, that it was of very great convenience to him in conversing with the attendant of a patient he had visited the previous day on one of the lines of railway some miles from the city.

Perhaps modern medicine is entitled in its rapid advance to no greater *éclat*, than for the progress made in the skillful reduction of deformities.

In orthopædic surgery a long felt want has been supplied, and though the method of procedure is simple in principle, the improvement is more the less useful, and has given imperishable fame to the author.

The name of Sayre will be for all future time connected with the greatest advance made in the history of orthopædic surgical therapeutics, in our day and generation.

Sir James Paget remarked that through the zeal of Professor Sayre to advance a noble profession, he had accomplished that, by which the suffering of the hunchback of to-day were ended, and had blotted out the deformity for future generations.

Next in importance to the advances just mentioned as having been made in modern medicine, is what is termed the antiseptic method of treating wounds.

In regard to this system reference is had particularly to Mr. Lister's antiseptic treatment with carbolic acid, which I must believe is the most valuable contribution to surgical therapeutics surgery has ever known. It is true, this treatment is not altogether endorsed by some surgeons, either in this country or in Europe. Both Mr. Ashhurst here, and Mr. Bryant in London, appear both skeptical in their recent works on surgery, of the alleged superiority of the antiseptic method.

They grant the practice should have a fair trial and be honestly tested, but the latter regrets that the distinguished Professor of King's College Hospital has not published the results of his practice as a whole.

Professor Ashhurst regards the antiseptic catgut ligature as quite safe for ligature of arteries in their continuity, but not so good for wounded arteries, or those divided in amputation, as the ordinary silk ligature, as it disappears without dividing the external coat of the artery, and thus does not securely occlude the vessel.

Mr. Bryant, however, prefers it as safer than silk, as it does not require an ulcerative process for its discharge.

These authors, it would seem, have no faith in the germ theory of the production of pyæmia and kindred diseases.

Notwithstanding the views of the eminent surgeons just named, I must say that my experience does not fully accord with theirs.

I have used the antiseptic method both in my private and hospital practice with the greatest success, and regard it as only second to chloroform in its value to the surgeon.

Without it, I should feel that I had been deprived of the most valuable adjunct to my success as a surgeon. For the last four years I have used it in our U. S. Marine and City Hospital in every case of injury I have had to treat, and many of my amputations have healed under its use by the first intention, or with a minimum of pus formation.

As sustaining my view of this invaluable agent, I have noticed in a late number of the *American Journal of Medical Sciences*, a number of cases treated by Lister's method in St. Mary's Hospital, Philadelphia, by Dr. Ewing, and the results were, that the absence of fever, erysipelas and pyæmia were marked, the effect too being to produce by means of the spray a healthy and cleanly condition of the wards generally.

In gynaecology also, has this method, perhaps, yielded better results than in any other department of practical medicine. Professor Emmett in remarking upon it says, the surgeon is relieved of most of his anxiety in gynaecological surgery by means of the antiseptic dressing.

Our medicinal therapeutics too, guided by an advancing physiology, is constantly adding to our list, remedies of value in the treatment of disease. Acute articular rheumatism is almost deprived of its terrors by the specific action, we might say, of the salicylate of soda.

Opium poisoning quickly relieved by the energetic action of apomorphia and atropine, hypodermically administered. The

waning powers of nature in post partum hemorrhage taking on a renewed vitality by the transfusion of blood, as well also as the increased curative effect given to old ulcerations by the same process.

In hydrophobia, that terrible and incurable malady, the inhalation of oxygen has been found greatly to relieve the cyanosis and spasm, and in connection with the subcutaneous injection of woorara and the free incision of the parts, much more success has been attained in the treatment of this frightful disease than formerly.

In Jaborandi, the physician as an almost certain diaphoretic and in pilocarpin its active principle probably a valuable adjunct to our therapeutic armamentarium is acquired.

The gelsemium too, with its beautiful flowers and delightful perfume, making redolent the forest air of the Southeastern portion of our State with its fragrance, is a most useful addition to the *Materia Medica*.

Besides its qualities as an arterial sedative, it is a certain anti-periodic in our malarial fevers. Thereby seeming to carry out the idea entertained by many, that where certain diseases prevail, nature has given us in the vegetable kingdom near at hand, a corresponding antidote.

The application of electricity, though still sub judice, both as a medical and surgical therapeutic agent, is probably destined in the not far distant future to render invaluable aid to the surgeon and physician.

Many are the other remedies and means which the modern advances in medicine have placed at the disposal of the medical men to subdue disease, and ameliorate the condition of mankind.

The practice of medicine of to-day is no longer subservient to ancient authority, however respectable and eminent, but based upon the sound therapeutics of an enlightened and advancing physiology.

Inflammation is no longer regarded as a disease, a *materies morbi* entrenched in the human system and requiring the aid of the old antiphlogistic batteries to dislodge, but rather a process of repair, a physiological action so to speak. By its influence a fractured bone is repaired, in pneumonia some obscure injury is received, and this process is brought into action to repair the lesion. In its efforts to bring about reparation, inflammation frequently becomes too energetic, and needs the interference of the physician, and right here,

all the good sense and judgment of the attendant is brought into requisition, to aid the efforts of nature in conducting the case to a successful issue.

The indications are to use such remedies as will lower the temperature and reduce vascular excitement. To accomplish the former, purgatives and saline preparations having a diaphoretic and cooling effect would be indicated; in the latter, those agents which have a tendency to produce dilatation of the blood vessels, thereby relieving the blood tension on the inflamed parts. Such we have in venesection, antimony, chloral, aconite, veratrum, &c., and the external application of poultices, and cold and warm water. Various antipyretic agents for reducing body heat have been in vogue from time to time, according to the advances in physiology, and as fashion would dictate—for we have fashion in medicine as well as in other things. Among the most effective means of lowering the heart's action, and reducing the temperature, none is more cogent than venesection, a practice now almost obsolete, mainly on account of its abuse.

The mistake our predecessors committed in blood-letting, and which brought the practice into disrepute, was too large bleedings at the beginning, and the repetition of the act to meet subsequent risings of the temperature, instead of following up the initial act by heart depressants and antipyretic remedies.

Professor Flint has been making some very interesting investigations recently, concerning the sources of animal heat, and he thinks there is little doubt but that water is formed in the body by the oxidation of hydrogen, and heat thereby evolved, and regards alcohol as a powerful therapeutic agent in preventing tissue waste in fevers, by supplying materials for formation of heat, and, perhaps, in animal heat the oxidation of carbon and hydrogen is a more important factor in colorification, than the oxidation of nitrogen. And if excessive heat is thus produced why may not the exhaustion and emaciation consequent upon the progress of fever be more or less modified by supplying the system with the hydrocarbons, in the form of fatty and starchy matter, sugar and alcohol, until the fever is subdued, than in the exhibition of highly nitrogenized food in form of beef essence and similar articles.

This view of the subject would seem somewhat to militate against

those advocates of the butcher shop and chicken coop, who consider the latter treatment as a *sine qua non* in all acute internal inflammation.

I will not, my friends, trespass further upon your time and patience, I am sure none of you can feel as I do, how feebly and inadequately I have performed the duty assigned me by your partiality.

I could go on and extend my remarks upon the connection and value of advancing philosophic enquiry with practical medicine, but time forbids.

I will say, however, that experience and observation have taught me not be excessive in my therapeutics; in other words, not to kill my patients with drugs; but trust more to the *vis medicatrix naturæ*, and not to be in too great haste to interfere with every abnormal departure from health, for there is always a corresponding effort on the part of nature to right itself.

The powers of systemic resistance to ill-timed medication is wonderful, if it were not so, many would be the victims of the charlatan and quack, and even of the misapplied efforts of the intelligent physician himself.

In conclusion, I would say a few words to the younger members of our profession.

Young men upon the threshold of professional life are frequently deterred from making proper and determined efforts to obtain reputation in their calling, from an innate consciousness that they do not have that genius or talent that gives their possessor notoriety.

They should reflect that what men most need, is not so much these qualities, as they do a resolute purpose. Industry, after all, is the lever of success. Untiring labor will frequently accomplish more than misapplied genius or talent, not that running here and there after many objects; but that industrious pursuit of the object in view with steady purpose.

Economy, prudence and self-denial will bring its reward. A man with moderate ability and well applied industry, will frequently attain the success that is denied the shining genius.

It is not wise either, to put too low an estimate on one's work, every one has a mission to perform in this life, and none are without their influence. The better that mission is performed, and the

greater the influence for good, the more has he accomplished for the benefit of himself and others in the world's great drama of life.

The possession of self-confidence is very necessary in carrying out zealously the various enterprizes of our career.

No man ever achieved anything, not in the arts and sciences or in any field of labor, unless he possessed that innate consciousness of his ability to succeed.

To cheerfulness and contentedness in that station of life in which an all wise providence has placed us, must we all look for that aid and comfort so requisite in sustaining us through all the pleasures and trials of life.

## USE AND ABUSE OF ALCOHOL.

Abstract of an Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879.

By J. F. LONG, M. D., Newbern, N. C.

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\* \* \* \* \* It is not my purpose, Gentlemen, to make you a temperance speech on this occasion ; nor would I worry your patience or insult your good taste by *attempting*, even an *elaborate* essay upon the physiological effects of alcohol on the system ; but impressed with the startling fact that, despite the fierce battlings of total societies, the persistent work of temperance crusades, the noble efforts of the church, the influence of gospel ministers and the gentle persuasions of relatives and friends ; the vice of intemperance is rapidly on the increase, and a tidal wave of drunkenness many degrees higher than that of the preceding years is sweeping over the land, drenching the homes of high and low, drawing out tender influences, blighting brilliant promises, nipping cherished hopes, fostering evil agencies, killing religion, blasting the prospects of the country, breaking hearts, making widows, creating orphans, filling poor houses, crowding penitentiaries, feeding the gallows, depopulating heaven, peopling hell, flooding the river of tears and echoing the wail of hearts that are broken and souls that are

damned. I am driven to ask myself the question, for how much of this are you professionally responsible? In how many of these cases is your alcoholic prescription—needlessly and lightly given, and where other remedies would do as well—the spark that kindles the latent magazine? In how many of these cases is your advice, thoughtlessly rendered, but carrying with it the weight of authority and influence, the knife in the hands of the child that severs the withes of the giant and sends him forth to tear, ravage and destroy? How much does the modern, popular and fashionable system of administering whiskey and other alcoholic stimulants in disease, and freely advising its use as a medicinal agent, contribute to crowding this weird, funeral car that is bearing its load of unhappy voyagers with the speed of time down to a moral and physical *Hades*? How many do we under a mistaken sense of duty and scientific requirement continually thrust under the crushing wheels of this ponderous Juggernaut, victims to a modern professional Vishnu? How many do we, with our liquor treatment, unthinkingly fling into that turbid, rushing stream that is ever *flowing, flowing*, and that empties at last into the ocean of death and dishonor? Or, how many do we with the scratch of a pen or a moment's counsel consign to lives of disgrace and early graves, on whose certificates of death should be written *Similia Similibus curantur*? In other words, gentlemen, in advising the protracted use of alcoholic stimulants indiscriminately and loosely, or under any circumstances without a due regard to the antecedent and present habits of our patient, his inherited proclivities and constitutional weaknesses, and without a cautious inquiry into his family history, are we not acting in the interests of disease through its specific poisoning of the system, at the expense of organic structure, and the risk of making drunkards where we would make cures? In thus recklessly prescribing it, are we not incurring the danger of inaugurating or *reviving* an overmastering habit, in whose deadly clutch its victims can but writhe as in the folds of a laocoön from which few, if any, are ever rescued? Does the one solitary virtue that it possesses, its stimulant property, warrant our general professional use of it in the face of its terrible sequences and surroundings, and will God and our own consciences hold us acquitted for thus intelligently and deliberately perpetuating moral and physical ruin? These are the



questions, gentlemen, that have forced themselves, uninvited upon my attention, and if their brief analysis and discussion result in no other good than the production of an increased caution in handling a useful but dangerous remedy, I shall feel that the moments have not been wasted, and shall therewith rest content.

“Many distinguished physicians and physiologists now boldly affirm that alcohol does not pass through the ordinary processes of digestion, but, like water, is quickly absorbed by the veins of the stomach, and this finds its way into the general circulation; that it is directly antagonistic to digestion, and if ever of any advantage to the system when taken in moderation, it must first act through the blood upon the brain and nerves, and then by reflex action upon digestion.”

The experiments of Dr. Bocker confirmed by Virchow, prove incontestably that alcohol poisons the blood, that it arrests the development and hastens the decay of the red corpuscles, and the former gentlemen has noticed also a loss of vitality in the colored disks which manifests itself by the formation on them of black oil specks and their conversion into round pale globules. This condition, corroborated also by Lallemand and Lecann, distinguished French analytic chemists, is fatty degeneration of the blood, which lays the foundation of fatty degeneration of all the tissues in every organ of the body, and the basis according to Dr. T. K. Chambers, of three-fourths of the diseases that medical men are called upon to treat. Dr. Aitken in his *Practice of Medicine* states that the first effect of alcohol when taken into the stomach is to coagulate every albuminous article of food or fluid with which it comes in contact, and as an irritant stimulating the secretion of the gastric membrane, to lead ultimately to thickening of that delicate tissue.

Dr. Lankester, F. R. S., in his “*School Manual of Health*,” observes that even diluted in the form of beer or wine, alcohol acts injuriously upon the delicate membrane of the stomach and other organs of digestion, and when taken in larger quantities of either of the dilute forms the *same* injurious effects are manifested, not only upon the stomach and liver, but upon the heart and brain, the liver and brain, however, being, according to Lalliman and Perin, the organs most susceptible of its evil influences; while the results of Dr. Carpenter’s investigations, concurred in to a great extent by

Liebig, shows that it irritates and corrugates living tissues, thereby interfering with capillary processes, and retarding and stagnating the circulation of the blood, which leads to inflammatory action and even gangrene. That it coagulates albumen and impairs the solidifiability of fibrin, consequently striking at the very root of assimilation and nutrition. That it causes a shrinking of the red corpuscles and a mingling of their contents with the liquor sanguinis, thereby seriously affecting aeration and the proper elaboration of organizable plasma, and that nervous, organic, circulatory and mental diseases are the direct result of its moderately protracted use. But the saddest part of his testimony is to the effects that not only are cachectic diseases, mental weaknesses, imbecility and proneness to insanity directly transmitted to the progeny of those who thus use it; but a morbid constitutional craving for and love of the dangerous drug are engendered in them which render their lives but one long, continued struggle for the mastery; and I do say, gentlemen, if there ever could exist an offense of sufficient magnitude to justify a child in cursing the memory of his dead father, and in being utterly thankless for the gift of a painful existence thus unsolicitedly thrust upon him, it would be this inheritance of woe and sorrow, this enemy implanted in his very citadel, this *circe* in his bosom with whose syren songs, more formidable than those which lured Ulysses to his ruin, he is hourly and daily battling for the simple boon of a *sober life*, much more that of a gentleman, a successful man and a Christian.

That alcohol in any form or under any circumstances, is imbibed at the expense of organic structure, and that its stimulant affect is procured by increasing the destructive process, is most beautifully illustrated by Herbert Spencer in his graphic analysis of its physiological phenomena. When an agent, says he, capable of so changing the molecular state of nerve motion as to arrest its function is taken into the circulation, it first acts on the nerve corpuscles. Each change produced in each one of these, whether of decomposition or isomeric transformation, implies a disengagement of molecular motion or a disturbance of molecular quiet that is immediately propagated along the connective nerve fibres and irritates the centre to which they run. Every nerve corpuscle being thus quickly acted upon, and emitting successive discharges as each suc-

cessive molecular decomposition or transformation is wrought upon it, there results a general exaltation state, which shows itself physically by the invigorated pulse and increased muscular contraction, and psychically by the rush of vivid ideas and intensified feelings.

Hence, while I do not propose to deny to alcohol its true remedial virtues, it is evident to every well studied mind that its effects are but temporary; that its therapeutic area may be narrowed down to a very small point, and that those conditions in which the medical man may dare to prescribe it without rendering himself amenable to God and humanity for wrecked lives, ruined souls, broken down constitutions and other sequelæ of intemperate habits, may be stated in propositions of but limited numbers, and indicated in phrases of very few words. In his great prize essay upon this subject, Dr. Carpenter, F. R. S., has very hurriedly, yet briefly solved the important problem, and mapped out the line of duty for every practitioner who, while treating existing diseases in his patient has an eye, *honestly* to possible complications of which he, *himself*, may become the author, or who, while guiding his patient past the Scylla of present suffering is very solicitous not to plunge him into the Charybdis of future and more formidable and fatal trouble.

In two words he has surveyed the ground, defined the limits and cast up the sum of alcohol's therapeutic value, and in two words, *shock* and *prostration*, or those manifold and varied conditions in which, through a failure of the heart power, feebleness of its contractions, diminution of its impulse and partial or total absence of its first sounds, there are threatenings of a breaking down of the vital forces rendering dissolution imminent and an immediate reëction necessary, alcohol, through the peculiar phenomena so beautifully described by Herbert Spencer, indicated as not only a very valuable agent, but as probably, *in these instances only*, the most important of our diffusible stimuli.

It is totally irrelevant to the subject in hand, and I will not trespass upon your time and patience, gentlemen, by enumerating these conditions. You are all familiar with them, and from the ordinary cold shock up to the great prostration produced by the ingestion of an animal or vegetable poison, every practitioner in the land has, at some period in his professional career, an opportunity of contending with them. They are neither so plentiful as to immoderately tax the memory, so complicated as to be unrecognizable,

nor so obscure as to cause a mistake, but plain and perspicuous, they are so clear that he who runs may read, and none need be deceived in them; but he who is willfully blind to the truth, or who is carried away by vain and illusory systems whose only title to consideration is the polish of a *new* theory, or the charm of a *modern* idea.

But even in *these* emergencies, and, as it were, in the very presence of death itself, the great pathologist rings the changes upon the dangers of indiscriminately administering this stimulant, and with the pale guest, seemingly, already in the bed chamber, cries out his caution and bids the medical man beware and remember, that reactionary excitement just as surely follows upon primary depression as that depression is subsequent to primary excitement, and if alcohol has been hastily or injudiciously given the excitement will be all the more difficult to control; especially, says he, if the brain be involved in the shock, alcohol having a determinate tendency to that organ. Furthermore, he continues, when alcoholic stimulants are employed for these purposes—that is, in the condition to which I have just referred—the utmost care and watchfulness should be observed, both to avoid the doing positive mischief by an overdose or a longer continuance than is necessary, and the bringing the system into a habit of dependence upon them, thereby predisposing it to all the evils of their excessive use and all the horrors that follow in the line of confirmed intemperance and drunkenness; for there is no doubt, says he, that a course of fatal over-indulgence in alcoholic drinks is very often superinduced by the therapeutic use of them. But it is in chronic diseases, and its protracted use in the acute forms that he is loudest in his condemnation. I believe, says he, that but little, if *any* benefit can be expected from the administration of alcohol in chronic diseases, at least, in so far as regards its specific agency upon the heart and nervous system. That its assumed tonic properties are not only entirely *without* adequate proof, but manifestation with another name of its stimulant effect, and that the seeming advantages of nutrition and flesh making, accruing through its irritant action upon the digestive function is as evidently fallacious as that we see in the *increased* flame of a lamp just after the raising of the wick when there is a deficiency of oil; provided, not by the reanimation of dormant power, but by the more rapid consumption of the little

stock of power left ; and it is my belief, continues he, confirmed by late experience, that the *vis medicatrix* of the system *instead* of alcohol, is the great agent for improvement or reviving in these cases when time is given for its operation, and other circumstances combine to favor it.

Finally, says he, inasmuch as even the moderately protracted use of alcohol is so injurious to health, inasmuch as its so-called tonic properties are so utterly fallacious and delusive, and inasmuch as its stimulant virtues may be obtained through other remedies, it is very desirable in the treatment of chronic diseases, and in the prolonged demand for stimuli in acute troubles, that its administration be *avoided altogether*.

Professor Ringer testifies that beneficial as alcohol is, it may do harm as well as good, and that although the heart is the best criterion of its action, its influence over other organs should not be overlooked ; inasmuch as it may happen that while it is benefiting one it is injuring another and while it is doing good in one sense, it is inflicting incalculable harm in another ; and Dr. Watson, F. R. S., in advising against its employment in delirium tremens, gives it as his opinion founded upon a practice of more than a quarter of a century, that those who recover from attacks of this disease through the agency of alcohol, never abandon it, but on the contrary, return to its excessive use and are ultimately destroyed by it.

In 1875, Prof. Hitchcock, President of the Michigan State Board of Health, issued 200 hundred circulars to the most distinguished physicians of his own State and the same number to the most eminent practitioners of other States, propounding six different queries relative to the sequential history of alcohol as exhibited in their individual experiences. To the question, in that degree, does alcohol shorten the lives of its victims, the answer was—an average of 28 per cent.

To the question, in what degree can inherited disease be traced directly or remotely to alcohol, the answer was an average of 21 per cent.

To the question, what forms of disease are traceable directly or remotely to alcohol, the answer was—all diseases involving the brain and nervous system—inflammation, apoplexy, paralysis, mental imbecility and insanity—all organic diseases having their foundation in fatty degeneration, a few skin diseases, gout and rheumatism.

To the question, in what per centage of the inmates of your asylum can insanity or epilepsy be traced to alcohol, the answer was from 6 to 20 per cent.

To the question, in what percentage can inherited mental degeneracy be traced to the use of alcohol by parents or ancestors, the answer was from—20 to 30 per cent—and in 24,789 cases collected from fourteen of the principal asylums in the United States, the answer was ever the same, sad, gloomy, but confirmatory one.

It is thus established beyond a peradventure, and upon the most distinguished and reliable authority that, as a poisonous agent, alcohol should be prescribed with the greatest limitation and administered with the most consummate caution. That its only remedial excellency is obtained through the decomposition or transformation of organic tissue and arrested function, and that its protracted use, even in moderation, causes fatty degeneration and other organic diseases whose enumeration it is foreign to my purpose to attempt.

And yet, in the face of all of this thorough analysis, this minute investigation and this close and exhaustive study, such men as Letherby, Parkes, Thudichum, Edward Smith and others, highly enlightened, thoroughly cultivated and gentlemen of the largest and most extended experience, still persist in investing it with some fallacious agency as a tonic in debility, some erroneous characteristic as an invigorator in indigestion, some false property as a nutrient and flesh-maker in convalescence and chronic decadence, and some mistaken virtue in diseases consequent upon its excessive use.

Notwithstanding the black records of disease and death which the reports of hospitals, infirmaries, sanitary committees and boards of health are continually rolling up, and notwithstanding such distinguished scientists as Carpenter, Barker, Chambers, Aitken, Ringer and Lankester have defined its limits, pointed out its dangers, and narrowed down its therapeutic uses to the varied conditions that arise under the generic heads of "Shock and Prostration," restless and ambitious theorizers, more eager for the ephemeral notoriety consequent upon the propagation of a new system than the welfare of their patients, are flooding the land with their pernicious teachings and false theories; and their disciples, faithful to the instructions they derive from these poisonous propaganda, indiscrim-

inately administer alcohol in acute and chronic diseases, and prescribe it with all of the reckless freedom with which they would handle the most innocent and innocuous drug that the pharmacopœia affords.

I wish it distinctly understood, gentlemen, that it is not the judicious, rational, legitimate use of alcohol that I am condemning, but its *abuse*. It is not that I would sweep it from the list of remedial agents and deny its efficacy altogether, but that I would call your attention to the dangers of its *irrational, injudicious, reckless, administration*. As a stimulant to the heart and nervous system in all of these emergencies where an immediate reaction is demanded, and in the language of Dr. Carpenter, where it is necessary to keep the patient alive until his vital forces can rally from the prostration under which they are laboring and more curative remedies be adopted, alcohol has probably no superior throughout the entire pharmacopœia. This is the verdict, founded upon analysis and experience, of many of the most distinguished physicians physiologists and chemists of modern times: but those who, imparting to it a wider field of action, and claiming for it a more extended sphere of remedial excellence, advise its general and protracted use, not only attach to it properties which it does not possess, but lay the foundation and build up the structure of that long line of fatal organic diseases that inevitably follow in the footsteps of its illegitimate employment.

But its physical evils are the very least of all the unhappy sequences of this tampering with alcohol as a medical agent, and they fade into utter insignificance by the side of that greater and more terrible result, the habit of dependence upon it is a daily beverage and from which to a life of moral degradation and ruin, the transition is but a step.

Ah, gentlemen! could we but lift the veil that indulgent time kindly and leniently casts over the records of our professional transactions: could we but peer into the granary of the ages where are garnered the harvestings from so many professional plantings, or roll away the stone from the sepulchre of the buried years where lie entombed so many sad and unfortunate mistakes, I fear we would start back in horror and affright; and as the accumulated debt of fatal responsibilities loomed up before us and as the accusing voice

of conscience with its unmistakable meaning, propounded to us the question, Where is thy brother? our souls would be filled with dismay and silence, and the seeds of remorse and sorrow be implanted in our breasts forever.

In all the flush of his youth and strength, and in the beauty of his budding manhood, with his future spreading out before him like a flowery panorama of promise and hope, the pride of his mother, the ambition of his father, and the love, it may be, of a gentle maiden, the intoxicating cup having never been pressed to his lips, knowing not its taste, having never felt the influence of the charmer, charm it ever so sweetly and subtilely, and in total ignorance of the giant that is slumbering in his bosom; in the matured prime of his middle life while its wine is still sweet and its flowers yet fragrant, or in the freshness and vigor of his green old age slightly impaired by former excesses, but nevertheless full of the cheerfulness and joy of renewed hope and expectation consequent upon reformed and altered habits, he consults us at our office or he calls us to his bed-side where disease has laid its heavy hand upon him.

Fancying that some peculiarity in his case demands it; wishing to pander to a morbid, yet dormant appetite; meeting with some complicating, obscuring element that defies an immediate diagnosis, or perverted by some visionary monograph abounding in incorrect statements and false conclusions: On the same principle that a fashionable Parisian doctor prescribes gold for his lady patient, as a placebo and to render ourselves popular, as a scape-goat behind which to hide our own ignorance, to achieve a little fleeting reputation as a man of progress and a keeper up with the times, or totally indifferent to the cruelty we are perpetuating and utterly thoughtless of the terrible results that may follow, we prescribe alcohol in some one of its many alluring and fascinating compositions. And yet the magazine is there, latent though it be, charged to the very brim with all the elements of destruction and death; the dormant taste is also there needing but an appetizer to arouse all of its quiescent action; the giant lies bound and slumbering in the bosom, and the poisonous viper coiled in momentary apathy, awaits but a little dallying and caressing to revive and animate all of its native instincts.

A modern Prometheus, we literally steal the fire of heaven, but



alas ! instead of creating a new life, we destroy that which already has an existence ; we re-ignite the smouldering appetite which grows insidiously step by step, little by little until it becomes a vast, raging, irresistible sea of constitutional demand ; we sever the withes of the giant, the reptile delivers its deadly sting, and the young man whose future was so brilliant, whose life-flowers were so beautiful and fragrant, and in whom was garnered so many fond expectations of loved ones, goes out from under the hands of the doctor or the monotonous life of his sick chamber a confirmed drunkard and soon lies in the gutter a fallen star and a human wreck. Babylon in ruins, says an ancient author, is not so sad a sight as a human mind overthrown by lunacy ; but a sadder sight yet, gentlemen, is the one that I am endeavoring, faintly to depict in your presence. His comeliness and beauty have departed, his well-rounded, lithe, muscular figure has become bloated, mis-shapen and enervated, his eyes that once beamed with the fascination and charm of intellect and soul have become blood-shot, stark and lustreless, his graceful carriage that elicited the admiration of one sex and the envy of another has degenerated into the shambling gait and uncertain movement of the constant drinker, his faculties are blunted, his self-respect is gone, the slime of the rum-mill and the odor of whiskey cling to him, and there is just enough left of decency of apparel, intellectual gleamings and physical beauty to mark the greatness of the ruin and give a faint perception of what the original in his prime and glory *was*. The sanguine expectations of friends are all disappointed, a mother's heart is broken, a father hides his dishonored head in a premature grave, a sister weeps over a shattered idol, a wife is driven to starvation, children to beggary and ignorance, and through it all, the victim of a single prescription, or the protracted use, as a remedial agent, of alcohol in one attack of sickness, stumbles onward with but one purpose in life, the quenching of the raging thirst for alcoholic drink that is consuming him, until the Potter's field takes him up, or he renders that last, sad, though involuntary tribute to his race when his poor, bloated, disfigured carcass finds its way into a dissecting room and science and humanity get the benefit of his anatomy. The middle-aged man returns like a hog to his wallowing in the mire ; the old man having made his last, fruitless effort at sobriety falls back into

hopeless inebriacy, and still the professional juggernaut, moving onwards with its everlasting thunders, pauses not a moment to pity, to spare or to look aside, but rushes forward forever. Impassive as the marble in the quarry it cares not for whom nor for how many it destroys, nor for the results, direct or indirect, many or few, of its destructions. Ever increasing in horror and magnitude, the more it multiplies its victims the more surely and effectually it conceals them ; and for the same reason that in an ancient Roman Amphitheatre when it grew to the magnitude of a great city, births and deaths which were common incidents attracted no attention, these multiplied tragedies are unnoticed ; and because they neither gratify curiosity nor furnish food for sensation, they are utterly disregarded and passed by as unworthy of either attention or sympathy.

Like the Cretan Minotaur, the veiled prophet of Khorassan or the pitiless Persian Zohauk, its deadly contributions are all the more surely livid that they are made under the brilliant covering of unfulfilled promises and the false hope of profit and advantage. Like the thorn in the bud of the rose, its sting is all the more painful and certain that it is concealed under the velvety softness of hypocrisy and deceit and the fragrance of odors that are alluring ; or like the viper that is cherished in the bosom of confidence, its bite is all the more positive, and deadly that it is totally unexpected and given to the hand that caresses it.

Because the results of our injudicious, thoughtless practices do not continually stare us in the face ; because not one of them, it may be, is ever brought under our immediate notice ; because the poor-house, the house of correction, the Maison de Santé the penitentiary and the grave very kindly and leniently hide them from our view : and because there are no newspaper advertisements or suits at law for malpractice, let us not lay the flattering unction to our souls that we are innocent, that those things are all myths, or that they are distorted images of an over-excited imagination ; and because we have succeeded in hiding from public notice behind the sophisms of false theories, professional irresponsibilities and scientific exigencies, let us not fancy, like an ostrich with his head in a hole, that the all-seeing eyes of our consciences, ever alive and sensitive to the least willful commission of wrong, will not find us out and lash us and torture us and condemn us.

In the vast halls of human frailty there are separate and gloomy chambers of a frailty still more exquisite and consummate. We account it frailty that three score years and ten make up the sum total of man's pleasurable existence and that before that time has been reached his beauty and his power have fallen among weeds and forgetfulness ; but there *is* a frailty by comparison with which this ordinary flux of the human race seems to have a vast duration. Cases there are, and they are not rare, in which a single day or a month or a year, sweeps away every vestige and landmark of a once memorable felicity ; in which the ruin flies faster than storms upon a mountain side, or snow-flakes before the driving blast—faster even than a musician scatters sounds—in which *it was* and *it is not* are but utterances of the self-same tongue in the self-same minute. Cases there are slower and more progressive in their nature ; but many more alas ! in which youth, beholding life prosperous and happy at the outset, looks out upon a middle-life of wreck and ruin in which there is an abolition even of every fugitive memorial that there ever had been a vessel to *be* wrecked or a wreck to be obliterated.

This is no fancy picture, my friends, neither is it a highly colored, highly exaggerated statement of undeniable facts ; and although rhetorically spoken, throughout the length and breadth of this great nation not a day passes that the head, pet or idol of some unhappy family does not fall into ruin, and sometimes even the family itself is swallowed up and obliterated or its course is turned away from the beaming sun of prosperity and happiness toward the wild, dark wilderness of misfortune and sorrow. Conflagrations and shipwrecks are great calamities ; earthquakes, pestilences and famines, though of rarer visitation, still greater ; but the greatest of all, gentlemen, is the development of an inherited love for alcoholic drinks in a youth of promise and hope, or the re-kindling of a reformed taste in an older man, through the well-meant, yet injudicious, thoughtless action of a family doctor.

And yet, from even these great moral holocausts, that like deadly simooms or cyclones sweep away in a month or a year the accumulated hopes of a life time, lessons of prudence and wisdom may be learned. They are whispered in the quiet, yet surely fatal progress of disease. They are thundered in the wild ravings of delirium.

They are echoed in the senseless screamings of insanity ; and they come to us in a voice of terrible significance from the land of shadows and tragedies—be wary, be wary in prescribing alcoholic liquor as a remedial agent.

To heal the sick, or to drive back the shadow of Azrael from the couch of human suffering is noble and divine ; but to save a man from habits that degrade him in this world and to destroy him in the world to come, is God-like and sublime, and worthily entitle the generous doctor to his place in a niche side by side with, not a Howard or a Nightingale, but a Wesley, a Fletcher, a Whitfield and a Baxter.

Therefore, gentlemen, in exhibiting this agent, not only should we exercise the most unlimited hesitancy in protracting its administration, and not only should we never fail to acquaint ourselves with the heredity of our patient as well as his past habits ; but since temperance organizations, philanthropic associations and good men generally are making such persistent efforts to stay the progress of the fell-destroyer and arrest its ravages, the time has come when medical men who are its natural guardians should cast in their lot with these noble crusaders, and at all times and under all circumstances give them the weight of their professional authority and influence ; and since alcohol has passed into the hands of those who are not only totally ignorant *of*, but culpably indifferent *to* its poisonous properties, and since it is impossible that we can ever secure an undivided control over it, we owe it to ourselves, we owe it to christianity, and we owe it to bleeding, suffering humanity to, *at least*, be the first in denouncing its improper use, and the loudest in pointing out the perilous reefs and dangerous head-lands that underlie its foaming breakers.

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## SPECTACLES IN YOUTH.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 21, 1879,

By RICHARD H. LEWIS, M. D., Raleigh, N. C.

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According to the constitution of society in this, our day and generation, the members of the medical profession are the natural custodians of the public health, and it is our duty, therefore, to do everything we can to preserve that health, not only by curing disease actually in existence, but by preventing its occurrence, and by ameliorating the physical condition of our fellow-citizens as far as it may lie within the power of our art. With that object in view it behooves us, as opportunity may present, to instruct the laity in all matters pertaining to hygiene both general and special; and as we are forbidden by our code of ethics to address them through the newspapers, I avail myself of the opportunity by this assemblage of a large number of the leading medical men of our State, even at the risk of proving tedious by a repetition of facts with which they are probably already conversant, to direct their attention particularly to a very important subject, in the hope of reaching through them the general public, and in this way of giving to the latter valuable information of which they are at present for the most part ignorant.

In the nature of things the specialist in medicine has much greater facilities for observing the particular classes of diseases that come within his peculiar province than the physician in general practice, and he is for that reason much more apt to be impressed by a mass of facts that fall under his eye than is the latter, by the same facts doubtless, but occurring at such long intervals in his experience as to be more or less barren of effect. Besides, the general practitioner overburdened by the cares and responsibilities attendant upon the more serious maladies which threaten life, and, in many instances, unfortunately, unable to afford in addition to the instruments actually indispensable, the somewhat costly appliances necessary to make an accurate diagnosis in the class of cases that will engage our attention, is, in some measure, hable to overlook in this apparent triviality, as there are no characteristic objective signs of disease and generally

none of any kind, even if he should be consulted, which on that very account is a matter of doubt, certain eye-troubles of serious moment to the patient.

From my experience in the practice of my specialty, which embraces the diseases of the eye, I am convinced that to a large proportion of our people the idea of putting spectacles on a child is absurd, and, of course, not to be entertained, and it is for the purpose of disabusing their minds of an error fraught in many instances with danger, not only to the physical, but to the mental and moral health as well of their offspring, that I now occupy your time and attention.

The need of spectacles proper, leaving out prismatic glasses, is the result of one of two conditions, either of a failure of accommodating or adjusting power of the eye, or of an error in its refraction. As weakness of the accommodation, pure and simple, save in certain exceptional cases when it is due to a general letting down of the whole system from some exhausting disease, and in which it is apt to prove temporary, is invariably associated with age, the consideration of spectacles in that connection does not come within the scope of this paper: but it is in their relation to the errors of refraction, to-wit: hypermetropia or far-sightedness, myopia or near-sightedness, and astigmatism, inasmuch as they are, with rare exceptions, always congenital, or acquired within the first 15 or 16 years of life, though it is true that the first and last named if slight in degree not seldom remain latent until a much later period, that they will properly engage our thoughts at present.

In order to appreciate the departures from a standard of excellence we must first have a clear idea of that standard; to understand the nature of the errors of refraction we must possess a definite knowledge of the correct refraction—in short, an accurate conception of the normal or emmetropic eye; and, as a repetition of familiar knowledge is preferable to obscurity, I trust that I may be pardoned if at times I appear rather elementary.

Before going into the consideration of the structure of the normal eye, it may not be amiss to recall for a moment the effect upon light of a convex lens. A convex lens bends or refracts the rays of light towards its axis, the amount of refraction bearing a fixed ratio to the curvature of its surfaces. The point at which parallel

rays, i. e., rays from objects more than twenty feet distant, meet after being refracted by it, is called its principal focus, and the distance between that point and the lens its focal length. If the impinging rays instead of being parallel are divergent—if in other words they emanate from near objects, provided, however, the object be more remote than the focal length of the lens, they must, the refraction power of the lens remaining the same, meet at a point further off than its principal focus, or at one of its secondary foci.

In describing the eye as an optical instrument, the very apt illustration that is employed by most writers is the camera. As is well known, that instrument is composed of a dark chamber, with a convex lens at one end and a ground glass plate at the other at, say, the principal focus of the lens.

Parallel rays then would come to a focus exactly on the plate making there a sharply defined image of the distant object, but if the object should be approached until the rays became divergent, they would, of course, meet behind the screen, at one of the secondary foci of the lens, and the picture would be blurred. By a screw arrangement, however, the distance between the lens and the screen is increased until the position of the screen or plate coincides exactly with this secondary focus when the image comes out sharp and bright again. In the eye we have a dark chamber with a convex lens (the crystalline) in front, and posteriorly, (exactly at its principal focus in the normal eye), a sensitive screen (the retina), and, optically considered, the only respect in which it differs from the mechanical contrivance, is in the mode of its adjustment for near objects. The distance between the lens and the retina being fixed and unchangeable in the eye the adjustment cannot, manifestly, be effected by increasing that distance, as in the camera, but it is accomplished through the instrumentality of the ciliary muscle, which by increasing the convexity, and, consequently, the refractive power of the lens, shortens its focal length and brings up to the retina the focus of divergent rays; or, to express it differently, accommodates the eye for near objects.

Now, the normal or standard eye is of such a length, that when the ciliary muscle is perfectly passive and the lens is completely relaxed its principal focus is exactly on the percipient layer of the retina and distinct vision of distant objects is obtained without the

slightest effort. Moreover, in an eye of this description the power of the ciliary muscle is such that it can be accommodated for a conveniently near point for almost any length of time without fatigue.

Having thus attempted in as few words as possible to depict as clearly as the circumstances and the want of diagrams would permit, the normal eye, let us now see to what departures from this standard the several anomalies of refraction are to be attributed. I will at first merely state them, and later take them up seriatim, and consider them in their effects, and in their relations to spectacles, more at length.

In hypermetropia or H. "for short" as it is generally written, the eye-ball is too flat, too short from before backward, and, as a result, the retina is situated within the principal focus of the lens and parallel rays meet behind it. The refractive power is too low. It is corrected by a convex glass which supplies the deficiency in refraction.

In myopia or M., just the reverse is true—the eye is too long in its antero only too long—posterior diameter, the retina is therefore situated beyond the principal focus of the lens, and parallel rays meet in front of it—the refraction is too high. It is corrected by a concave glass which neutralizes the excess of refractive power, which, by rendering the rays of light divergent, sets back their focus to the retina.

In astigmatism there is a difference in the refractive power of two meridians of the eye which cross each other at right angles. It is due to an asymmetry of the cornea, that structure being curved more sharply from side to side, for example, than vertically, so that, while the horizontal meridian is myopic, the vertical is normal, or even hypermetropic. It is corrected by a cylindrical glass which refracts the light chiefly in a plane at right angles to that of its axis and not at all in the latter.

Let us now consider these errors somewhat more in detail and as H. is the most common, certainly in agricultural communities like our State, where the proportion of inhabitants devoted to purely literary pursuits or the finer mechanic arts is comparatively small, we will take that up first.

Far-sightedness, as stated above, is due to an abnormal shortness



of the globe from before backward, so that with the accommodation relaxed, even parallel rays come to a focus behind the retina. As a matter of fact, however, the accommodation unless paralyzed by disease, or artificially by some mydriatic, is never entirely relaxed, the instinct for clear vision being so strong, that involuntarily it exerts itself, increases the convexity of the lens, and brings up the image to the retina in its faulty position. This effort for distance, unless the error is very marked, is not appreciable, and is generally so much less than the total strength of the ciliary muscle that no fatigue follows distant vision ; but when the hypermetrope comes to look at a near object, to read for instance, it must be added to the accommodation required of the normal eye for near vision, the demand upon the ciliary muscle is excessive, and it soon becomes fatigued.

We should remember, though, that in infancy and early childhood the lens is very soft and plastic, and that this extra accommodation, on that account, is obtained at that period in most cases without any apparent strain. About the age of 10, however, the lens commences to get stiff, and with each succeeding year becomes more and more so, and consequently, as the person grows older, a greater accommodation effort is required : and, sooner or later in proportion to the degree of the error, generally from a few years to forty-five when old sight comes in, it gets to be impossible to keep up the strain for any length of time, and to maintain continuous near vision.

The sight is nearly always very good at first through a vigorous effort, a "spurt" as it were, to use a racing phrase, on the part of the muscle of accommodation, but like all other excessive muscular efforts it cannot be kept up, it soon relaxes and everything becomes dim. After a rest the reading can be resumed, but the same trouble supervenes even more quickly than before, until finally, after repeated trials, each shorter than the preceding, the eyes become so irritable and painful that their owner is compelled to desist.

If the use of the eyes for near objects be persisted in under these circumstances, the retina is likely to become chronically congested and sensitive to light, and the lids to take on a chronic form of inflammation. Besides, this eye strain, by causing a peripheral

irritation of the nervous system is, in addition to the effect upon the eye itself, frequently followed by headache, and it is liable in some cases to cause more or less serious impairment of the general health. Every physician is familiar with the effects of reflected nervous irritation, and although these troubles are more frequently connected with astigmatism, yet they sometimes accompany simple hypermetropia as was strikingly illustrated by the case of a young married lady of 26, who was under my care not very long since. She had a rather high degree of H. (1-9th), and her eyes had troubled her from childhood. For several years she had been quite an invalid, the services of her family physician being in frequent demand for one trouble or another, until he sent her to me for her eyes. I ordered a simple pair of convex spectacles, and under their use, she not only enjoyed keen and comfortable sight, but all her various ills vanished, and in three months she gained thirty pounds in weight.

It is not, however, in its influence on the physical health that H. chiefly deserves our attention, but in its effects upon the mental and moral well being of its possessor which are more lasting and more serious in every way. As we have seen the far-sighted child has perfect vision for distance, and even for near objects for a short while, and, as the popular estimate of sight is generally based upon the distance at which objects can be discerned, he is looked upon as having very good vision.

Moreover, as there are no signs of disease of the eye, and as his teacher and parents observe that he never complains of any difficulty in following agreeable pursuits, that he can see to play marbles, or ball, or even to shoot a gun, possibly with exceptional accuracy, they are not prepared to accept his excuse for unlearned lessons, that he cannot see and that his eyes hurt him. His excuses are, therefore, pooh-poohed, his failures attributed to laziness or stupidity, and his misfortunes probably added to by frequent punishments of some kind—in “the good old times” doubtless by a vigorous application of the birch or hickory. The boy knows that he has told the truth, that he cannot see the letters long at a time, that his eyes do get painful, and he feels that his frequent punishments have been undeserved, and he either becomes cowed, or, his little breast swells with indignation at the injustice done him, and

he becomes sullen and rebellious. In either event his moral nature is apt to be distorted and embittered, and his whole after life rendered less happy thereby. "As the twig is bent so will the tree grow," and the failure to recognize or correct this error in childhood has, no doubt, in this way been productive of truly unfortunate consequences to very many people. After a while, when a faithful trial of the rod, or confinement, or both, has convinced his teacher and parents of their inability to accomplish a physical impossibility; and when the damage to his disposition has already been done, the boy is probably taken from school, all hope of an education denied him, and, though he possess the genius of a Newton or a Dickens, he is doomed, merely for the want of so simple a thing as a pair of ordinary spectacles, to waste his talents between the plow-handles or in some such calling.

Another, and by no means rare, effect of this error is internal strabismus. By the laity it is generally attributed, as you doubtless know from experience, to various causes, such as looking at an overhanging curl, or a feather in the cap, or to the imitation of other cross-eyed children: but Professor Donders has shown it to be almost invariably a result of H. and has explained the reason of it. The rationale of the causation of internal squint by H. is, I think, one of the most interesting things connected with the eye, and worthy of a moment's consideration. As you are aware, both the muscles of accommodation and those of convergence receive their nerve supply from the same source, through the 3d pair, and, inasmuch as in the normal eye they always act together, the demand upon both being made equally as the object is approached to the eye, there is a certain coördination, or harmony of action between them: and since, as a late writer suggests, the defective development of an external organ like the eye is not necessarily, or likely to be accompanied by a corresponding want of development in the central nervous ganglia, the natural harmony of action existing between these two sets of muscles is not likely to be disturbed by any change in the shape of the eye-ball. They always act together then, and as a current of nerve force is sent to the muscle of accommodation a corresponding demand is made upon the internal rectus, so that the action of one cannot be increased beyond certain narrow limits without an increase in that of the other—the greater

the convergence the greater the accommodation and *vice versa*. Now the hypermetrope, who, in order to see distinctly near objects, has to make a violent accommodation effort, avails himself of this fact, and to effect the extra accommodation, he increases his convergence abnormally—in other words crosses his eyes.

An illustration may make this clearer. Suppose a far-sighted child wants to read at 12 inches, but the accommodation required of him for 12 inches is as much as would be demanded of a normal eye for 8 inches. By converging for 8 inches he can, for the reasons above set forth, obtain sufficient convexity of the lens, but then neither eye would be directed to the object which is essential to acute vision. If he were to relax his convergence to 12 inches his accommodation would relax in the same proportion and become insufficient, so, in order to retain both and at the same time see acutely, he makes, while the angle of convergence remains the same, i. e., for 8 inches an associated movement of the two eyes together turning one outward to the object and the other correspondingly inward, thereby producing a squint of the second eye. When this internal strabismus first makes its appearance, it is periodic in character, only occurring when the child looks intently at some near and small object; but after a while the internal rectus undergoes structural shortening and it becomes permanent. At first there is double vision, but in most cases the false image falling on an eccentric part of the retina causes little or no annoyance, and even if it should, the child soon learns to mentally suppress and disregard it. From disease and suppression of the image the squinting eye becomes after a while, for all practical purposes, blind. It is only in the slight and medium degrees of H. that the liability to squint exists, because in the higher degrees it is impossible for the child to obtain clear near vision by any unaided muscular effort, and he speedily abandons the attempt and contents himself with seeing everything more or less directly, but with both eyes. Fortunately the instinctive desire for binocular vision exerts so strong and controlling an influence over the eyes, that, except in cases where there is a congenital weakness of the external recti, the squint is not apt to occur unless by some means, as by a difference in the visual power of the two eyes, the value of binocular vision is diminished.

The applicability of convex glasses as a means of preventing crossed-eyes is, of course, apparent. By supplying the deficient refractive power they make the demand upon the accommodation no greater than in the normal eye, and thus serve to remove the cause for the abnormal convergence. It must be confessed, however, that not infrequently the tendency to squint is so strong, especially in those cases where one eye is much more defective than the other, and where the preponderance of the internal recti is marked, that one eye will turn in eventually in spite of the glasses. And it is likewise true, that in addition to the difficulty of fitting glasses accurately to a child too young to read or give reliable answers, (though it can always be done by a skilful use of the ophthalmoscope), there are certain manifest objections to putting spectacles on very young children: yet, nevertheless, it should always be done, for even if they do not succeed in finally preventing the squint, they will postpone the time of its occurrence, serve to preserve the sight of the offending eye, and thereby to increase the chances of an entirely successful operation at the proper time. Besides, as glasses will generally have to be worn even after the most successfully performed operation to prevent a recurrence of the squint, it is certainly advisable to give them a trial in the beginning in the hope of preventing altogether, or at least postponing, the necessity for resorting to more heroic treatment, at the same time that better vision is afforded.

As illustrations of the value of spectacles in this class of cases I will mention briefly two, occurring among others, in my practice. One was a little boy in dresses, only three years old, who had a marked periodic squint whenever he looked intently at anything, that his mother ascribed to a fall, in which he struck the inner corner of his eye against one of the numerous angles of a chair. I ordered a pair of suitable convex glasses for him, and sometime afterwards she informed me that his eyes remained perfectly straight as long as he wore the spectacles, and that if for any reason she neglected to put them on he would ask for them, such was the comfort he experienced from their use; I have not heard from him since. The second case was that of a young girl of 12, whose squint had existed for seven years, having become in that time almost permanent, (it is not being entirely so was very unusual) as

the eyes were constantly crossed except at intervals of two or three weeks when they would become straight for a short while.

The happiest results were obtained from the habitual use of so weak a glass at  $+ \frac{1}{2}$ -42, for at the end of a year when I lost sight of her, there was no trace of deformity, and she had in the meantime been able to study with comfort—a thing she could not do without the spectacles.

Myopia, as already explained, is due in a vast majority of cases to a condition exactly the reverse of that in H.—the eye-ball is too long from before backward—its refraction is too high, and parallel rays, consequently, come to a focus in front of the retina, and vision of distant objects is blurred. Since divergent rays meet further off than the principal focus, at one of the secondary foci, near objects can be clearly seen. This condition unlike that in H. is, we may say, never congenital, but it is almost always acquired in childhood, or early youth, and is, therefore, of special interest to us. Its principal cause is to be found in the prolonged use of the eyes or very near objects, and it is for that reason that it generally makes its first appearance during school life when the eyes are first called on for continuous near work, and that it is most common among literary people. If there happen to be an insufficient supply of light, as is often the case in imperfectly constructed school houses, as well as in the bad habit many children have of reading by twilight; or, if the difference in height between the seats and desks be improperly great, the book must for manifest reasons, be brought very near to the eyes—dangerously near, as I had occasion to set forth at some length in a lecture before the Normal School at Chapel Hill two years ago, and as will, I think, appear sufficiently for our purposes from what follows:

Before maturity, the tissues of the eye in common with those of the rest of the body are soft and yielding, and therefore more prone to give way under any under pressure than later in life. In convergence beyond a certain point the ocular muscles in opposition to the internal recti are put upon the stretch, and the eye-ball consequently squeezed from side to side. If this pressure be excessive, or very prolonged, or if the tunics of the eye be from any cause unusually weak, as the choroid frequently is from the congestion following straining the eyes by a bad light, they are apt to give way

—to bulge backward—thereby increasing the antero-posterior diameter of the ball—at the point of least resistance, which happens to be around the entrance of the optic nerve—the very point, to still further increase the trouble, at which the force of the squeezing is most felt. Of course, when the myopia is once established by this bulging and consequent thinning of the ocular coats, it can be increased still more easily by persistence in the dangerously near approximation of the object—in short by the continued action of the cause upon an eye less able to resist. If this stretching of the tunics, including the retina, be increased beyond certain limits the sight becomes seriously impaired, and in some cases, through secondary diseases excited by this condition, destroyed. It is, therefore, incumbent on us as guardians of the public health whenever we see a child reading with his book too near his eyes to warn him of its liability to make him near-sighted, and if we find him already so myopic as to necessitate his bringing the book within a safe distance, say 10 inches, to suggest the means of his obtaining vision at a more remote and safer point—in a word to advise spectacles.

By doing this, besides opening up a new world to him in distant vision, we may succeed in preventing the progress of the malady, for in the higher degrees it amounts to a disease, there being nearly always more or less sclero-choroiditis at the point of bulging.

The evil consequences of uncorrected myopia in childhood, certainly when it is of a high degree, are not restricted to the eye itself, but are likewise to be seen in the physical and mental economy as well. The bad effects of the stooping position rendered necessary by a high degree of near-sightedness, in a young and growing child, producing the contracted chest, and interfering with the free play of some of the most important of the vital functions, must be so plain to every physician that it would be superfluous in me to dwell on this aspect of the subject. The mental and moral aspect of it is so well considered by another that I will take the liberty of quoting. “Young persons,” says a recent and distinguished writer on ophthalmology, “who are short-sighted and are suffered to grow up without spectacles, that is to say with no distinct vision of anything which is more than six inches or twelve inches from their noses, lose an amount of unconscious education which no teaching can supply. Their faculty of observation in its wide sense can at

best be only partially developed, and their mental horizon is apt to be as contracted as their physical one. Even without reference to other equally important considerations I am accustomed to urge upon parents that short-sighted children should be made to wear spectacles habitually in order that they may see the world as it is, and may not people a world of their own with introspection and morbid imaginings."

From what has been said it is evident that the importance of spectacles to near-sighted children in relation to the preservation of the eye itself as an organ of vision, as well as in relation to their physical and mental health and growth, cannot be well exaggerated.

Astigmatism, as was explained before, is a peculiar error of refraction due to a want of symmetry in the cornea, that structure being curved more sharply from side to side, for example, than from above downwards, in which case the refraction of the horizontal meridian would be greater than that of the vertical. These meridians of greatest and least refraction which are always at right angles to one another, but not necessarily vertical and horizontal, are known as the principal meridians. While astigmatism is neither H. nor M. it yet partakes of the nature of one or the other in all cases, and in the mixed form of both; for any variation from the normal refraction in any meridian would necessarily produce in that meridian one or the other of these errors. Time and your already overtaxed patience forbid our going into a more lengthy consideration of the nature of this most interesting anomaly, though that is a matter of small moment, as any one desiring to pursue the subject further will find it fully explained in any good work on the eye.

For our purpose it will suffice to bear in mind the essential fact, which is the *difference* in the refraction of the two principal meridians. Let us consider for a moment the consequences of such a state of affairs.

It is evident that an astigmatic eye cannot obtain a sharply defined image of any object near or distant for the reason that when it is accommodated for one meridian it cannot be for the other at right angles to it—it cannot focus, for instance, vertical and horizontal lines at the same time. It is true, that in childhood when, as we have seen, the accommodation is very active, if the difference



between the two principal meridians be comparatively slight, very good vision is sometimes obtained by accommodating separately for the two aspects of the object with such rapidity that the second can be seen before the first fades from the retina. When the astigmatism is high in degree, however, this cannot be accomplished, and the sight is very defective. Asthenopia too is more apt to accompany this trouble than H. even, simply because one continuous steady muscular strain for a certain time is much less fatiguing than a multitude of smaller efforts following each other with lightning rapidity. It would certainly be much less tiresome to a man to pull steadily one pound for one minute, than to make 96 pulls of a drachm in the same time.

On this account it is the most annoying to the patient of all the errors of refraction, and the reflex irritation of the nervous system excited by the excessive demand upon the accommodation, and by the dazzling resulting from the irregular refraction of the light which is very trying, (it is beautiful to see the relief in this respect that sometimes immediately follows the correction of the anomaly), is a very frequent cause of headache, and in some cases of serious, if not dangerous consequences to the general health, instances of which you have no doubt seen recorded in the journals. Looked at in its effects upon the mental and moral nature nearly everything that has been said in this connection of both H. and M. can be properly said of astigmatism.

The nature of myopia was first explained by the great German astronomer, Kepler, as early as 1604, as I learn from the classic work of Donders ; but of H. and astigmatism nothing except their effects was known until the present century was well advanced, and indeed it was as late as 1858, when Donders first published an account of the true nature of H. with a solution of the various optical problems connected with it, so that the blessing of sharp and comfortable vision to the numbers of hypermetropic and astigmatic people in the world is one, and by no means the least, of the many good gifts to suffering humanity of "Modern Medicine."

I have purposely omitted any consideration of the methods of selecting glasses, assuming every one possessed of the appliances necessary to an accurate test of vision to be already familiar with them.

To some of the more conservative among you, gentlemen, the facts that I have just so imperfectly called to your attention may appear chiefly fanciful and theoretical, but they are of very great practical importance as the testimony of every one who has investigated them proves.

As every oculist knows these errors of refraction are quite common, and on account of their hereditary character increasing in frequency; and that they should be promptly corrected, I hope I have been able to show.

From the numbers of such cases occurring in my practice during my short residence in the State, I am confident that there are hundreds if not thousands of our people at this moment suffering from "weak eyes" and its consequences, in total ignorance of the fact that so simple a thing as a pair of spectacles accurately adjusted would clear away the mists that now obscure their sight and permit them to use in comfort and thoroughly enjoy the first of the senses.

As said in the beginning, very many of these sufferers will not seek you for aid because there are no manifest evidences of disease, but you will no doubt be asked for advice in many other cases, and if by this feeble effort I shall have been at all instrumental in ameliorating the physical condition of some of our fellow beings by the more extended application of our art, my object will have been accomplished.



## SULPHUR AS A REMEDY IN THE TREATMENT OF DIPHTHERIA.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 22, 1879.

By WM. R. WOOD, M. D., Scotland Neck, N. C.

Educated in an age and school when lunar caustic was the remedy *par excellence* in the treatment of diseases of the throat, I was taught to believe that the physician who failed to exhibit it in his ministrations to that much abused organ, was sure to be condemned

by the family and friends of the patient as having neglected his duty in its most vital and essential part. Under the rapid advancement of an enlightened science, patient research and a sound pathology, I am happy to see such remedies in the treatment of such diseases fast passing away from the pages of medical literature. For with my experience in the treatment of that most fatal disease, diphtheria, I am most profoundly impressed with the belief that about as much mortality has been caused by the active use of nitrate of silver in the treatment of that affection as by the disease itself, when unaided by any medical treatment whatever.

Waiving all unnecessary discussion and argumentation relative to the nature and pathology of the disease in question which has been so often and exhaustively debated by the profession at large, I desire simply to lay before the profession of North Carolina my experience and practice in the treatment of diphtheria with sulphur as a topical or local application, for what it is worth. Hoping after testing its efficacy by actual experience as I have done, they may succeed in establishing its reputation as a valuable remedy in the treatment of this fell destroyer of the human species. Neither will I pause to discuss its *modus operandi* or how it produces its specific action. Whether a sufficient quantity being absorbed into the general circulation, manifests its action as a powerful alterative on the system at large, attacking the diphtheritic poison through the medium of the blood or simply acting locally, directly on the membranous exudation, destroying the peculiar *fungoid organisms* by some other of its numerous properties, is a question I shall leave to theorists and experimentalists to determine. The idea acted upon by me relative to its curative powers was that of its action as a local specific in the treatment of scabies or itch, were so pronounced an effectual in destroying the minute animalculæ peculiar to that affection—why may it not produce the same specific effect as a curative agent over the *micrococcus bacterii* or whatever *contagium vivum* it may be that develops the peculiar diphtheritic exudation; or, in other words, if sulphur *per se* possesses in such a powerful degree the capacity as a destructive agent over so great—by comparison—an animalculi as the *sarcoptes hominis* (acarus scabiei), why should it not exert a thousand fold more destructive influences on the infinitesimally minute micrococi or bacteria of the diphtheritic membrane?

Those were the principles upon which it first presented itself to my mind, and on which I founded my opinion of it as a remedy in that most fatal malady. The first case upon which I had occasion to observe its especial efficacy was in a young lady some seventeen or eighteen years of age, living in the village of Palmyra, about seven miles distant from Scotland Neck, whom I was called to see on the evening of January 3d, 1878. I found her suffering from sore throat, with considerable fever and headache, accompanied by an eruption on the face, neck, forearms and hands, causing intense burning and itching sensations. On examining her throat I discovered the whole of the fauces, soft palate and back of pharynx, completely covered by diphtheritic exudation; fever being quite high and tongue very much coated, (it being very near night), I prescribed, calomel viii, Dover's powders iv, grs.—to be exhibited in pill at bed time, after a hot mustard foot bath; also directed a teaspoonful spts. nitre every two hours in wine glass iced flax seed water, with instructions to take in the morning a goblet of citrate of magnesia. On examining my medical case for the purpose of preparing a gargle for her throat, I found that I had neither tinct. of iron or chlorate potash. (I intended to make application of tinct. chloride of iron to her throat, and prepare a gargle of chlorate potash). On looking up, I noticed on her dressing case a glass of sulphur and water mixed, which she informed me, “she had seen recommended in a newspaper as a good gargle for diphtheria.” I at once determined to let her use it during the night, and bring her a carbolic diphtheria gargle next morning, and left. On my return next day about noon, I found her much better, with slight fever and decidedly relieved of the intense burning and itching caused by the eruption which seemed fast disappearing. On examination of her throat I was much surprised to notice the almost complete denudation of the diphtheritic membrane observed on the previous evening. The sulphur gargle was continued and she was placed on chlorate potass. mur : tinct. iron and quinine in moderate doses every three or four hours. The nitre and ice water for the yet remaining fever being continued. I promised to call again next day, but did not from some cause or other. I visited her though, on the day after, (the 6th,) and found her almost well, the throat being entirely clear of the membranous exudations; but red, and

tonsils somewhat swollen. I prescribed acetous gargle and continued other remedies. This patient recovered without another bad symptom

My next case proved to be one of great anxiety and care, a sweet little girl, Lizzie L., residing in the family of Mr. E., of Scotland Neck, about six years of age, was attacked with diphtheria of a most violent form, early in October, 1878. Being confined to my room by sickness, I did not see her for several days after the inception of the disease. On the morning of the 8th, however, I was urgently requested to see her, and visited her. I found her condition critical in the extreme. She presented at first sight all the phenomena of a well developed case of scarlet fever. A crimson flush or efflorescence suffused her face, breast, neck, arms and lower extremities; high fever, hot dry skin, extreme restlessness, excessive nervousness and delirium; a wild expression of countenance, eyes red and watery, tongue coated and red on edges and tip, with slight nausea and retching, and to complete the complication, the roof of the mouth, the fauces and back part of the throat, were thoroughly covered by the peculiar diphtheritic exudation, the tonsils, the parotids, the sublingual glands and all the surrounding parts were very much swollen and inflamed. I immediately placed this child in a hot mustard hip bath and prescribed refrigerant diaphoretics combined with teaspoonful spts. nitre and one drop tinct. aconite every two hours, directed her head and face to be bathed in ice water and vinegar; also gave her five grains calomel and one of ipecac, to be followed in the course of a few hours with wine glass draughts of citrate of magnesia and ice every hour until bowels were moved. At the same time I had flannel applied to the glandular swelling about the throat saturated with the following linament: camphorated tinct. soap and tinct. arnica, of each one ounce, tr. of aconite and oil turpentine, of each two drachms.

This case being so severe and complicated, I did not deem it advisable to risk the sulphur application to the throat at first, as I thought it inexpedient to resort to an unestablished remedy in so serious a case. I, therefore, made frequent applications of tinct. chloride iron to the exudations, and used carbolic acid gargle. During the day and night the medicine taken acted finely, her bowels were well and thoroughly evacuated, her fever somewhat

moderated, and altogether by next morning her condition seemed to be more favorable; but on examining her throat I found no material change, the ulcerations looked dusky and ash colored and the portions of the mucous membrane not covered by the exudations, presented an alternate red, mottled and livid appearance. As I am a sworn enemy to nitrate of silver in all such cases and as I had made several applications of the mur. tinct. iron during the night without any perceivable benefit or impression, I determined to try the sulphur treatment, as it could do no possible harm if it did no good. I put a teaspoonful of flowers of sulphur in half wine glass of flax seed water, and made as well as I could, by constant stirring, a thick emulsion, taking a small mop made of soft, linty cloth, I filled it well with the sulphur mixture and thoroughly mopped her throat with it, leaving a pretty considerable coating of the sulphur on the diseased surfaces and adjacent parts; ordering the application to be repeated every three or four hours. She was also put upon beef tea and milk toddy, in tablespoonful doses, alternately every two hours; and directed to use the following gargle, freely and often: chlorate potash,  $\mathfrak{z}$  ij.; hot water,  $\mathfrak{z}$  vj.; alcohol,  $\mathfrak{z}$  ss.; creosote, (8) viii gtts.; hydro chloric acid, xxx gtts. Fever still being very high and the excessive nervousness and delirium more fully pronounced than on the previous evening. I ordered two drops tinct. aconite and five grs. bromide potassium in teaspoonful, camphor water every three hours, continuing the refrigerants and nitre. Crushed ice was allowed by the teaspoonful, *ad libitum*, and frequent sponging of the hands and face with ice water and vinegar, continuously applied.

By the next day I was much gratified to find a most favorable change in her condition, the membranous exudation had entirely disappeared from the roof of the mouth and back part of the throat, and only two remaining patches were visible, covering each tonsil. The mucous membrane of the surrounding parts had also changed its lividity of color, and now presented a bright red and glistening appearance. Her other symptoms were also much improved, pulse softer and less frequent, tongue slightly moist, slight perspirations, fever, in a measure, subdued, and the scarlet efflorescence disappearing and of a paler hue, with moments of returning consciousness. I now administered tinct. chlor. iron, chlor. potassa.

and quinine every three hours, in as large doses as her stomach would tolerate. Dover's powders were ordered at night for restlessness and an occasional dose citrate magnesia to regulate the bowels. This course of treatment was persevered in for several days or a week, at the end of which time all the symptoms had materially moderated, the scarlet rash had almost totally disappeared, the patches of exudation on the tonsils, before alluded to, had entirely peeled off, nervousness and delirium in a great measure subsided, and consciousness again established. Notwithstanding all this improvement, there was still a condition about the throat which I did not like, although every vestige of the diphtheritic membrane had disappeared, and the swelling of the different glands alluded to, much diminished, yet there remained a bright red, glistening and hardened appearance about the fauces and tonsils, the latter being considerably enlarged, however, she gradually improved under the above treatment, with slight modifications, and at the end of about three weeks from the first attack, was considered convalescent and discharged, when suddenly without any apparent cause, she was taken with a relapse; but in a more modified form, and again her throat became covered with diphtheritic ulcerations. Again, I resorted to the sulphur applications, with all the other remedies as above described, the sulphur soon cleared away the membranous exudation from the throat, and she finally recovered from this second attack; but convalescence was slow and protracted, and it was several months before she regained her former health and strength.

The next cases on which I applied sulphur to the throat were those of two beautiful, interesting young girls, Minnie and Etta, aged twelve and fourteen respectively, the daughters of Mr. E., of Scotland Neck, the same in whose family Lizzie L., was an inmate as mentioned above, both were attacked during her first convalescence, one almost immediately after the other, and both presented the same peculiar characteristics of the disease as described in her case, though in a milder degree. Both were suffused by the same scarlet rash, though it was not near so intense and well developed as in her case, and the throats of both were well covered with the diphtheritic exudations—there was much less fever and restlessness and no delirium—both were treated with the sulphur applications

and the other usual remedies, and both rapidly recovered in the course of ten days or a fortnight without any serious consequences.

Now was this scarlet fever I have been describing? I think not. There was no desquamation of cuticle, or very little, and none of the consecutive diseases or sequelæ attendant upon that disease. It occurred in an isolated and healthy neighborhood. There was no scarlet fever prevailing at the time, nor had there been.

There were no other cases similar to those described or following them. My opinion then, was, and is now, that they were merely sporadic cases of scarlet rash or roseola, complicated with a severe attack of diphtheria, as there had been one or two cases of that complaint reported in the neighborhood, though unaccompanied by any attendant diphtheritic lesion.

The fifth and last case I shall report in this paper in which I used the sulphur treatment, was that of a negro infant, aged seven or eight months, which was brought to my office by its mother. It was suffering from an almost putrid sore throat, covered by a mass of diphtheritic exudations, with a constant, offensive and fetid discharge from either nostril. Its throat being so swollen, I could not make any application whatever, without strangling or suffocating it. I, therefore, injected the sulphur mixture through the nasal passages, and directed its mother to fumigate it with the flowers of sulphur three times a day, and gave it internally, minute doses *mur. tinct. iron, chlor. potassa* and quinine every three hours, and recommended cleanliness to both mother and child. This patient materially improved under this manner of treatment; but died some two weeks afterwards from exposure and sheer negligence. I am confident this case was benefited by fumigations with sulphur, and would eventually recovered had it been blessed with the requisite surroundings. I usually use one or all of these methods in applying the sulphur to the affected parts, viz: The one already mentioned as mixed with flax seed water and used by mopping, gargling, or injecting through the nasal passages, or what is preferable when it can be done, blowing the dry sulphur through a reed or quill directly on the diseased surfaces, and lastly by fumigation. I have treated numerous other cases of diphtheria with sulphur in the last eighteen months, some very simple ones, whilst others were of a very grave and serious nature, and in no single instance thus far have I had cause to regret its adoption.



Before concluding this article I will mention a severe and most obstinate case of membranous croup in which after exhausting all the usual, as well as unusual remedies generally exhibited in such cases for two consecutive days and nights, when almost despairing of the little patient's life, I resorted to frequent applications of the sulphur emulsion to its throat with occasional fumigations also. The child, after a desperate struggle, finally recovered ; but whether any credit was due to the part the sulphur treatment performed in his recovery, or, it was owing to other and more rational treatment, I am not prepared to state. But I think with the lights before me, it deserves at the hands of the profession a fair trial and impartial judgment in the treatment of diseases of the throat, especially those of a diphtheritic character.

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### THERE IS DANGER IN A KISS.

By R. L. PAYNE, M. D., Lexington, N. C.

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Very many of the diseases to which we poor mortals are liable, can be prevented, provided proper efforts are put forth to meet that most desirable end.

This truth no one will gainsay, still, the subject has not yet attracted the attention its importance demands, and it appears now to be the especial duty and province of those of our profession who live in this day of preventive medicine to erect finger boards along the highways of life, which shall point out clearly and plainly the known causes of disease, and also the usual means of propagating and preventing the same, so that all persons may be able to see and profit thereby.

There is oftentimes *danger in a kiss*, notwithstanding Lord Byron, that prince of poets, in the days gone by, expressed the wish

“ That womankind had but one rosy mouth,  
To kiss them all at once from North to South.”

Ah ! it was a bad wish even for so bad a man, and so faithless a lover as he, yet it does seem that he was not peculiar in this respect,

since in this glorious age of enlightened progress, such sickly sentimentality is no less popular, and has no fewer votaries, than in the days of old, because kissing, *kissing*, KISSING is still the order of the day !

The ladies kiss each other upon every offered opportunity ; every flimsy pretext ; the poor little children, and even the babies are made to do likewise in compliance with the requirements of genteel society, and the men too, would do the absurd thing at every meeting, were it not for the lamentable truth, that they are obdurate and have not yet been educated up to the sound, civilized and philanthropic principle of "dog eat dog."

They say they would not enjoy such a proceeding even under the most auspicious circumstances, and I fully endorse the sentiment.

However, I am not going to make war upon kissing under all circumstances, because husbands and wives, and parents and children, and lovers, etc., etc., will sometimes resort to the diversion, and I am free to admit that under favorable circumstances the practice may be allowed, although it be unnecessary, yet they all should know of the poison that often lurks in a kiss.

But it is about kissing in general I want to speak—the foolish fashion, the idle fancy,—the consummate folly of this age !

There is no doubt of the fact, that, the practice of promiscuous kissing, which is prevalent in many localities, is the source of untold evil to the human family ; nor can there be a doubt either ; that upon this frivolous altar of fashion, is sacrificed annually a hecatomb of innocent victims.

Every physician of experience knows this to be true, and yet as a body we have been strangely and culpably reticent upon the subject.

For the sake of illustration allow me to imagine a case which, although imaginary in this particular instance, is alas, of frequent occurrence in every day life. Two ladies meet upon the street, or elsewhere, by accident, or by design. The one is wan, delicate, sickly, with slight sores upon her lips, or within her mouth ; the other is vigorous, the very picture of a robust, healthy woman. Perhaps, both of them are good, innocent and virtuous women, but the first mentioned, by no sin of her own, is a victim of that fell destroyer, syphilis.

The fashion of the day, the mawkish custom of polite society demands that they shall kiss each other.

They may be scarcely more than acquainted, not even friends in the true acceptation of the term, but all-potent custom requires it, and the kiss is given.

They part mutually well pleased, and the kiss of empty form is at once forgotten, but its stealthy sting remains to do its silent work of ruin.

Soon that lively, healthy, splendid woman loses her bloom, wilts, withers, and decays, because she too, has been touched by a poison which if not more instantly fatal, is, at least, far more subtle, and more lasting in its effects, than is the scorpion's sting, or the sirocos smothering breath. The kiss was lightly given, and lightly received, only a passing courtesy, but God only knows where its effects shall end !

If the woman, per chance, bears children after her inoculation its results may descend a blighting, withering curse to generations yet unborn.

This picture is not overdrawn, and has been repeatedly exemplified in the experience of many of our profession, and here is another, which many have seen and will recognize as faithful.

A happy loving husband, and wife become strangely diseased ; the husband consults his physician, and is horrified to learn that he is suffering from syphilis. He knows that he has ever been faithful to his wife, and she knows that she has always been true to him, but the green-eyed fiend distrust enters their bosoms, each suspects the other of a breach of trust ; and the monster suspicion is, perhaps, forever enshrined upon the altar where once burned only the fires of confidence and love.

Such cases are by no means uncommon, and may sometimes follow as the consequence of a *fashionable kiss*.

Ricord, speaking of the means of propagating syphilis, asserts that, "the organs of the mouth are often the propagators of the contagion by a lascivious kiss, by the application of the lips, or tongue to some part of the mucous membrane, by suction of the breasts, and especially in suckling."

S. D. Gross, so often called the nestor of American surgeons, (than whom I recognize no higher authority) says : "A chancre

may sometimes form upon the lip; more frequently the lower than the upper, as the result either of the contact of chancreous matter, or of inoculation with the secretion of a mucous tubercle, as in act of kissing, smoking, drinking, or glass-blowing," and again, "chancre may be communicated by a sore, or mucous tubercle upon the lip, or tongue of the child in the act of sucking."

Many of the members of the North Carolina Medical Society will remember an interesting case in point, reported when we last met in Wilmington,\* by our distinguished confrère, Dr. E. Burke Haywood, of Raleigh, in which a lady contracted a buccal chancre from a secondary mucous tubercle on the lip of her lover. The doctor speaks of this case as "a warning to lovers;" would to God that such warnings might be written everywhere in characters so plain that "even the wayfaring man though a fool need not err therein."

The following cases came under my own treatment last summer :

A young man came to me with a neglected case of pox. He was already in the secondary stage of the disease, and among other symptoms which presented, had several mucous patches upon his lips, and within his mouth.

He had a little cousin, a girl child of sixteen months of age, who was still at its mother's breast. They were very fond of each other and he was frequently in the habit of fondling, and kissing the child.

Of course I knew nothing of this intimacy, or I should have warned him of the danger. Some weeks after this I was called to visit the child and its mother. I found the little one with enlarged cervical glands, sore mouth, sore eyes, etc., and its mother said to me, after I had prescribed for the child. "Doctor, please look at my nipple, I believe I am going to have cancer of the breast." Her nipple was sore indeed, and her axillary lymphatic glands were enlarged and indurated, not from cancer, however, but from a characteristic chancre.

I treated them all for syphilis, and the good results of the treatment verified my diagnosis. I have seen many similar cases during the last twenty-five years, and many more might be cited from the authorities upon this loathsome disease, but the above are sufficient for my purpose.

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\*Transactions for 1870.

Now let us look at another picture ! A number of ladies are gathered together in a social party with their younger children, and infants. As a matter, of course, they all kiss each other, and each other's children, and the children are made to do so too, in accordance with the customs of this Christian land.

All are merry, happy, jubilant even, except one poor child who sits apart from the others, with quickened pulse, flushed, or ashen face, slightly swollen throat, and feverish brow.

His eyes are dull and heavy, and he complains of pain in his back, limbs and head, and slight soreness of his throat. The poor boy has diphtheria, yet all of that jovial company have kissed him, and have run the risks of that dread contagion !

I know that the authorities are divided with regard to the contagiousness of this disease, and that the question is still considered by many as sub judice ; but be that as it may, I have seen enough with my own eyes, in my own practice, and alas ! even around my own hearth-stone to convince me beyond a doubt of its contagiousness, and that it can be communicated by kissing, and although the whole world of physicians should declare that it is not, I am, from my own experience, stubborn enough to believe that it is, and such will be my honest conviction until I have more, and better proofs to the contrary.

Very many other diseases may be conveyed by the act of kissing, and I might go on at length enumerating them, and adducing "confirmations as strong as proofs of Holy Writ ;" but my object is simply to call attention to the truth which lies in this direction, and to testify most solemnly against a practice so fraught with danger, so pregnant with death !

The act of kissing is never under any circumstances indispensable, and the indiscriminate practice is not only unnecessary, but is also foolish, dangerous, and very often insincere.

Ah, yes ; many an insidious kiss has been given since the days of Judas ! Then, why longer indulge in a custom so empty, so meaningless, but yet so potent for evil ?

The people at large are ignorant upon this subject, but medical men are not. Let us then as a profession speak for the truth, although many may say that our words are wasted, and that we are but "carrying our coal to Newcastle." Let us do what we know to

be right, though the heavens fall, being assured that duty performed brings its own reward.

“ Who does the best his circumstance allows,  
Does well, acts nobly,—angels could no more.”

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In our climate, so continuously hot for several months at a time, the question of artificial nutrition is doubly important for the sick and for the enfeebled. There is no scarcity of good alimentary articles, but there is an objection to very many of them that they will not keep. This makes our estimate of Trommer's Extract of Malt higher each season. It is adapted to a wide range of cases requiring supplementary food, it is almost always acceptable to the stomach, it aids digestion, it is an excellent vehicle for cod liver oil and other unpleasant medicines, and above all it will keep in the hottest climate. It is not surprising, therefore, that its use is fast becoming more and more wide-spread.

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*Pilocarpin as a Remedy for Alopecia.*—Dr. G. Semithz, of Cologne, (*Med. Times and Gazette*) has reported the cases of two bald men whom he treated in his ophthalmic practice with subcutaneous injection of hydrochlorate of pilocarpin to produce absorption of inflammatory residua within the eye. In both a secondary effect, consisting in the rapid growth of young downy hairs on the balds parts of the scalp, was observed. In the first case a man of 60, had in four months his whole head covered “partly with grey, and partly with black hairs” of considerable growth, and so as entirely to obliterate the previous baldness (!)

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*Give Due Credit, Neighbor!*—When a neighbor copies a selected article, typographical errors and all, it is pretty fair to presume that that neighbor does not exchange with the original. We wish the editors addicted to this small practice would take the pains this Journal does to get the best, or acknowledge the source of information.

## CURRENT LITERATURE.

### KUMYS.

We are indebted to the *Proceedings of the Medical Society of the County of Kings*, July, 1879, for the following, by C. A. H. De Szigethy, M. D. :

This fermented milk preparation is generally known by the name of kumys without any regard to the kind of milk from which it is prepared, although the Tartars, designate by kumys only that preparation obtained by the vinous fermentation from the mare's milk, that from cow's milk Airen or Arjan.

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From among the many complicated and laborious methods of preparing the kumys I select two, which I have found to be the simplest, so that those who cannot procure any of a standard quality may have the benefit of a tolerably good substitute.

Take about 9 litres (5 quarts) of freshly milked cow's milk, 250 grammes (one-half tt.) of white or of grape sugar, and heat it to 30° or 32° C. (86° to 90° F.), then add about 8 grammes (2 drachms) of compressed yeast and stir for a few minutes. After this, bottle the same into champagne bottles, but do not fill the bottles up to the cork. The bottles must then be shaken a few times for the next three or four days, by which the strongly effervescing milk wine will be ready for use.

Previous to the bottling, bottles and corks must be well cleansed with a solution of soda.

Another way of preparing kumys that will never cause any diarrhœa and is very nutritious, is the following: Dissolve  $\frac{1}{2}$  kilogramme (one tt., 4 ounces) of finely powdered milk sugar in 3 litres (6 pints) of water; of this solution, mix 1 litre with 3 litres of skimmed milk that has stood over night; to this add  $\frac{1}{2}$  to one bottle of already prepared kumys; then let this mixture stand in a temperature of about 21° C. (70° F.) till some carbonic acid bubbles begin to form, then add the remaining 2 litres of the first sugar of milk solution with 6 litres more of a well-skimmed milk, and churn the whole mass for about 15 or 20 minutes in a new churn; after this, let it stand for a day and then churn again for an hour before

bottling it into well-secured champagne bottles. These bottles must then be kept for 6 or 8 hours longer in a temperature of about 21° C. before they are removed to a cooler place.

Kumys deprived of its casein can be prepared in a similar way, only that sweet whey must be used instead of the milk.

The taste of all these sparkling preparations will be pleasantly tart, with a flavor of almonds.

Judging by the methods of preparing the kumys and by the constituents of the same as seen above, we can easily understand its physiological action and its therapeutical worth.

The *alcohol* in the same will help the formation of fat, will lower the temperature of the body and produce sleep.

The *sugar of milk* (*lartin*) therein will assist to increase the weight of the body.

The *lactic acid* will lower the temperature of the body and the frequency of the pulse, and will diminish the secretion of the mucous membranes.

The *casein* will effect a restoration of organic tissues.

The *carbonic acid* in it will diminish the frequency of the heart's contraction, will increase the energy of the heart's impulse, produce diuresis like lactic acid, and calm gastric irritation.

According to the above, kumys may well be proclaimed the most decided enemy of emaciation and as possessing the highest powers of nutrition wherefore it cannot justly be looked upon as "only a roundabout way of preparing milk-punch"; as by the fermentation to which it has been and still is subjected, it has been changed into an already digested milk, whose casein has become quite minutely subdivided and rendered less liable to being coagulated into large lumps, and consequently is made readier for absorption.

The therapeutical indications follow quite rationally from the above.

In Russia, where it is in popular use since time immemorial, it is looked upon as the *only* remedy for consumption, and deservedly, too.

All the consumptive patients who subject themselves to a kumys cure show, as the first objective symptom of improvement, a changed rosy complexion, that manifests itself already in the course of the first weeks of the treatment; this is so general that it is



called the kumys complexion." This may be caused partly by the change in the quality of the blood and partly by way of its distribution.

The blood is found to be greatly changed ; it has become thicker, contains more fibrin, more hæmato-globulin and less serum. These changes are easily understood when we take in account its easy digestibility and its property of being absorbable with hardly any residuum. Its effect can be compared to that produced by transfusion. It is, farther, not an improbable supposition, that there are factors in the kumys which produce an afflux to the kidneys and to the skin. The diminution of the mucous secretions by the use of the kumys may be explained also as depending upon the increased antagonistic functions of the before mentioned systems.

The increased irritation of the vaso-motor centres necessarily changes the lumen of the blood vessels in certain districts, some of them becoming more and more permeable to the circulation of the blood. However this may be, so much is it put beyond doubt by all observers, that medicine is in possession of no other blood-restorer so speedy and sure as kumys ; wherefore its employment is advisable in all those diseases which can be cured by the improvement of the mass of the blood—that is to say, in such diseases in which a diminution of the solid ingredients of the blood do exist.

In brief, we may sum up the following indications for the therapeutical employment of the kumys :

1. *Anæmia* in all its various forms, and with all its consecutive complaints; 2. Chronic catarrhs; 3. Chlorosis; 4. Chronic phthisis pulmonalium (in its torpid form); 5. Scurvy; 6. Convalescence from long acute diseases—after profuse hemorrhages; after emaciation from extensive sloughing, blenorrhagias, diarrhœas; after protracted lactation, etc.; 7. The adynamic stages of all acute diseases; 8. Dysmenorrhœa; 9. Hydræmia, serofulosis, leucæmia; 10. Hysteria and hypochondriasis (based upon anæmia); 11. Disorders of digestion and sanguinification; 12. Chronic and acute catarrh of the stomach and of the intestines.

In all these morbid states kumys can be employed with the most brilliant success, and every one may convince himself by his own observations that the effect of the kumys treatment will be the more striking, the greater the decay of strength has been.

Contra-indications for the employment of kumys are :

Plethora ; apoplectic habitus ; hæmorrhoids ; epistaxis ; menorrhagias ; organic diseases : of the heart ; of the blood vessels ; of the nerve centres ; of the kidneys ; of the liver ; of the spleen ; urinary calculi.

The quantity of the kumys used per diem is very variable ; one to five bottles a day will be the quantity generally to be used. The daily dose at the beginning of the treatment ought never to exceed one bottle. A glassful ought to be taken at longer or at shorter intervals. Every subsequent day the quantity may be increased with two or three glassfuls, until the total amount at the end of the first week will reach about five bottles, of which three bottles ought to be used until 1 P. M., and the remaining two others in the course of the afternoon. The time between 12 and 4 P. M. ought to be devoted exclusively to dinner and sleep. The dinner may consist of soups and of any lean meat (except pork or goose). Where there is a tendency to constipation, raw fruits, as berries, milk, fruits, vegetables, etc., are to be scrupulously avoided. At dinner time a wine-glassful of wine, or beer, or porter may be taken (claret excepted). At supper, if required, a chop, entlet or roast meat may be avoided also cold baths. Moderate exercise is desirable. Patients confined to bed may take about six tumblerfuls a day. The employment of kumys does not interfere with any other course of treatment. Whenever a desire of sleep should be felt it should always be at once yielded to, and nothing ought to interfere with the patient's sleeping as long as he likes. When given to children under one year of age, the contents of the bottle should always be emptied into a pitcher, and from that into another, until all the gas is eliminated ; then take what is necessary for one dose, and pour the remainder back into a bottle, cork, and keep it in a temperature between 10° and 16° C. (50° and 60° F.) When always re-corked and re-placed into a cool place it will keep for a day. It must never be warmed, sweetened or diluted, and not be given less than two hours after any other form of milk.

Children from three weeks to three months of age suffering from defective nutrition, and children over three months suffering from cholera infantum, should, for the first twenty-four hours, be given one teaspoonful every hour. Children over

three months of age suffering from any other form of defective nutrition than cholera infantum can take kumys from a nursing bottle, giving them just half the quantity they have been in the habit of taking of other food.

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## THEORIES OF FEVER.

[Extracts from a paper read by Dr. E. P. Hurd, of Newburyport, Massachusetts, before the Essex North District Med. Society.]

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The hypothesis of calorific nerves and nervous centres (supported by Bernard) was discussed, and shown to be destitute of proof; that of a primitive perturbation of the vaso-motor system was found to be equally wanting in solid foundation. In fevers the nervous symptoms are not constant, and when they occur they are secondary to the nutritive disorders. The abnormal heat is not due to simple paralysis of the sympathetic, for division of the sympathetic does not produce fever. The evidence all points to a pyretogenous cause at work in the blood, and by its irritating effects on the tissues, exaggerating all calorific chemico-vital processes. In short, the *humoral* theory is the best. The *materies morbi* of fevers in general is unknown. The germ theory lacks inductive proof, and certainly cannot apply to sympathetic fever from wounds or surgical operations, etc.), or to ephemeral or catarrhal fever. The hypothesis of a ferment in the blood, exciting and giving preponderance to dissimilation, is more probable; this ferment may be a chemical poison from the atmosphere, or it may be a morbid product of the system itself.\*

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We are becoming more and more convinced that there is an orderly sequence of events in fevers as in all other phenomena of nature, there is law and not disorder even in disease, and that human

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\*I still cling (with dullness that is characteristic) to this expression of opinion, after a careful perusal of the able paper of Dr. Becker, in the Journal, for May 15th. As an effort of the scientific imagination (supported, I confess by striking analogies) Dr. B.'s theory leaves nothing to be desired.

skill and knowledge are impotent materially to modify the course of febrile diseases. There will be occasions when your frail bark will be tossed on angry billows, when by adroit manœuvres you may avoid rocks and quicksands; there will be other occasions when the utmost you can do is to determine your bearings, your latitude and longitude, powerless even to guide the craft amid the raging storm.

The treatment of fevers comprises the following principles: (1.) Eliminate the cause. (2.) Support the strength. (3.) Meet dangerous complications as they may arise. (4.) Rescue the organism from the baneful effects of the fever heat.

(1.) The first indication, to neutralize or remove the *materies morbi*, cannot be efficiently met, because we do not know what the *materies morbi* is. It may be an altered condition of the blood from cold or heat, or constitutional cachexia, or from retained excreta, the pyretogenous acting as a ferment, poisoning the whole mass of the blood, and exciting to inordinate activity the organic combustions; it may be a living germ from the vegetal world, or a degraded form of bioplasm.

We are wholly in the dark on this subject, and therefore cannot intelligently combat the *materies morbi*. We are certainly not warranted, on the basis of positive knowledge, in dosing our fever patients with antiseptics and antizymotics with the intent to neutralize in the blood or destroy the fever ferment or fever germ. I cannot except the traditional chlorate of potash and euechlorine, permanganate of potash and salicylic acid, carbolic acid and sulphocarbolate of sodium, sulphurous acid and bisulphite of sodium, or even, in this connection, quinine and alcohol. Until we have positive knowledge, a judicious and respectful skepticism is our highest wisdom. Nevertheless, while we may not aim our shaft at an imaginary foe, we do well to keep the emunctories open, as there is reason to believe that through the ordinary channels of excretion the fever poison passes out of the system. It is certain that return to health is coincident with return to normal activity of the organs of secretion and excretion. Hence the continued use of the customary sweet spirits of nitre finds justification; the vinum ipecacuanhæ in diaphoretic or expectorant doses; the acetate, citrate, and bicarbonate of potassa, and other mild diuretics; and

the occasional laxative of senna, rhubarb, castor oil, or buckthorn when the bowels are confined.

My own limited experience does not lead me to repose much faith in aconite or other nerve sedatives as febrifuges. It is very improbable that the morbid heat production is at all influenced by these drugs, or that they are in any marked degree antipyretic. (2.) The second indication, to support the vital forces, includes all food and stimulants, as well as the hypnotics and anodynes which you give to procure sleep and relieve pain and restlessness. Doubtless an important advance in rational therapeutics has been made since bleeding and depressants in the treatment of fevers were abandoned, since Todd taught us to use alcoholic stimulants more freely and Graves fed fevers. And yet just here caution and judgment are needed. I am convinced that many cases of continued fever do better without a drop of wine and only a moderate supply of liquid aliments. Others do better with a little wine or whiskey every two, three, or four hours, and an abundance of pure milk. Sometimes it is advantageous to begin the stimulant treatment early, as where the tendency to death is markedly by asthenia. We must combat the fever heat by our cold baths and quinine at the same time we stimulate with alcohol. Restlessness, wakefulness, and delirium must be controlled by camphor and Dover's powder, or better still with chloral, or the bromides with hydrobromic acid. (3.) The third indication, to meet complications as they may arise, comprehends all those measures, medical and surgical, necessary to arrest hæmorrhages, check diarrhœa, stay the progress of ulcerations, etc., attention to which is necessary to save the life of the patient. (4.) The fourth indication, which we can happily do much to fulfill, is to restrain as far as possible morbid heat production, or to save the tissues from its toxic effects.

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Can anything be done to lessen heat production? Quinine in large doses is, I believe, the only safe antipyretic which even temporarily lessens organic combustions. Salicylic acid is of limited and doubtful utility. Clinical experience has determined that quinine is a veritable antipyretic, and therefore, in a sense, specific in all fevers.

A few years ago we should have shuddered at the suggestion of

giving to a child three years of age, laboring under a fever heat of 105° F., five grains of quinine every hour, with the view of bringing down the fever; now we find by experience that such doses produce no immediate bad effects, and that we can obtain a fall of several degrees by a few doses. Much larger doses may be given to adults, generally with gratifying results. Any cinchonism that ensues is of transient duration. The quinine in dose of a couple of grammes is often conjoined with the cold bath, with more marked antipyretic effect.

It is not claimed that the antipyretic cuts short the febrile processes; the most that the advocates of this treatment claim is that by virtue of its anti-fermentative action on the blood or its tonic effect on the tissues, or by virtue of being a *germicide*, quinine restrains excessive waste, promotes assimilation, checks the riotous production of bioplasm, and thus rescues the tissues, and especially the heart, from the destructive effects of high heat. If it acts as an antiseptic or germicide, it is certainly not very successful in its work, as it does not cut short the fever. To do good its use must be persevered in, and it must be given boldly. Whenever the temperature reaches 104° F. the quinine treatment must be commenced, and it must be given in repeated large doses at short intervals till the temperature fall to nearly the normal figure. (Ten grains an hour to an adult will bring down the fever heat after a few doses to nearly the normal).

The next antipyretic to be mentioned, and probably the first in importance, is cold, applied in the form of cold baths, sponge baths, wrappings of ice-cold water, or ice-bags.

Twenty years ago it would have been considered madness to take a child, in the first stage of scarlet fever, manifesting delirium or stupor from febrile calorification and the force of the virus, immerse it in cold water, and keep it there for several minutes, pouring (it may be) cold water on the head of the child till rigor supervened, the thermometer indicating the point at which the child should be removed from the bath. Now this is done with seeming impunity, and is countenanced by good clinicians as legitimate practice. Some of us country physicians think that in desperate cases we have saved life by these means. In ordinary practice cold baths are inconvenient, and our patients are shy of this mode of treatment; cold

sponging is much resorted to as a substitute. The patient is stripped of his clothing and laid on a rubber cloth; he is rapidly sponged from head to foot with ice-cold vinegar and water till the temperature falls from  $104^{\circ}$  or  $105^{\circ}$  to nearly  $100^{\circ}$  F.; then he is wrapped in a dry flannel blanket, and returned to his bed. The cold sponging is repeated whenever the thermometer indicates  $104^{\circ}$  F.

As to the results of the antipyretic treatment, after an experience of nine or ten years, we cannot speak very confidently. The immediate effects are generally very salutary, but the fever runs on; repeated baths somewhat exhaust the patient, and our large doses of quinine may do lasting harm.\* Certainly hospital statistics do not speak very encouragingly for the antipyretic treatment of fevers.† But clinical statistics are notoriously unreliable. It is to such statistics that homœopaths appeal, and we know with how little reason. The antipyretic system seems to be theoretically sound, and we have probable yet to learn how it may be most safely and efficiently managed. We must feel our way along, proving all things and holding fast that which is good; we must persevere, hopeful; follow the best lights; where certainty is impossible be content to remain in doubt; indulge no vain dreams; obey the dictates of common sense.—*Boston Med. and Surg. Journal*.

Dr. Edward Warren (Bey), our eminent Paris correspondent has just received the decoration of Chevalier of the Legion of Honor.

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\* "If administered in heroic doses it frequently overdoes the work required of it; it produces a cinchonism which adds to the burdens of the already struggling system, whilst it increases the derangement of the nervous centres and intensifies the disturbance of the digestive function." (Dr. Edward Warren in *Medical Record*, vol. xi., page 46.) See also Peters in the *Medical Record*, vol. xv., page 511. "Professor Lindwurm cautions against its use in large doses in *weak heart*." "Professor Binz shows that large doses may produce death by paralyzing the heart." Niemeyer abandoned large doses. Woods and Bartholow speak of its irritant action on the alimentary canal.

† See *Medical Record*, November 9, 1878, page 366, for statistics which show that in Bellevue Hospital the antipyretic treatment has not proven to be of certain therapeutic value. According to the *Medical Record*, vol. xv., p. 510, the mortality of several of the continental hospitals has greatly increased under the treatment.

## SYPHILIS IN RELATION TO MARRIAGE.

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In two papers published in the *Gazette des Hôpitaux*, January 7th and 14th, 1878, M. Alfred Fournier discusses the important question of syphilis and marriage, and gives the following as the conditions under which a man who has had syphilis may be allowed to marry.

(1.) *Absence of Actual Symptoms of Syphilis.*—Of course the presence of the slightest syphilitic lesion ought to prevent marriage.

(2.) *Advanced Period of the Disease.*—The most dangerous persons are those who marry during the first two years. In such cases, the wife as a rule contracts syphilis, and the same holds good as regards the offspring. Marriage ought not to be thought of until a minimum period of three or four years have elapsed since contagion. The longer the interval the greater will be the chance of escape of both wife and children.

(3.) *A Certain Period of Immunity Since the Last Symptoms Disappeared.*—It is impossible to fix this exactly; but, as a rule, the author would say about eighteen months to two years.

(4.) *A Non-Menacing Character of the Syphilitic Diathesis.*—If the disease have been mild, and easily amenable to treatment, and if the various lesions have been only slight and superficial, the conditions are excellent with regard to marriage.

The following cases are unfavorable for marriage: *a.* Those which, without being very severe, are nevertheless characterized by constant repetition of the same kind of lesions, especially in the mouth of the penis, although these lesions may be quite superficial. *b.* Cases which are severe by reason of intensity of the morbid action, revealed by the multiplicity or gravity of the symptoms, or by lesions which tend early towards a tertiary form. Cases which resist treatment and where the viscera are affected. *c.* Cases in which some important organ has been involved, *e. g.*, the brain: cerebral syphilis is especially dangerous because of the nature of the organ implicated, and also because of the relapses which will be almost sure to occur.

It is most important that the medical adviser should study minutely the *quality* of the syphilis in each case that comes before him, and give his prognosis accordingly.



(5.) *Sufficiently Prolonged Specific Treatment.*—This is the condition *par excellence*. It is treatment that lessens the dangers of syphilis and constitutes the best safeguard against the risks the patient runs. We can now affirm that syphilis, treated energetically from its beginning, and during a sufficient length of time, has no tertiary stage; while syphilis, untreated or insufficiently treated, runs on to a tertiary stage, save in rare and inexplicable exceptions. Treatment diminishes and suppresses the cause of contagion, as also the chances of hereditary transmission. Moreover, it has been proved that it may suffice for a child to be born healthy, that its syphilitic parents be under the provisional influence of mercurial treatment: *e. g.*, a syphilitic woman has seven pregnancies—seven syphilitic children, which all die—she is treated in her eighth pregnancy, and a healthy child is born; the same with the ninth; in her tenth pregnancy she is not treated, and has a syphilitic child, which dies in six months: she is again treated, and her eleventh child is healthy. Time on one hand, and treatment on the other, are the two great points to be considered. Specific treatment, by successive stages, during several years, gives the best chance of cure, and, consequently, the best prospect of marrying with safety.—*The London Medical Record*.

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#### STATE BOARDS OF HEALTH.

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The following paragraphs are taken from a paper read by Dr. S. E. Chaillé, of Louisiana, at the late meeting of the American Medical Association:

In regard to State Boards of Health, the following facts deserve to be better known: After thirty years of effort by the medical profession, Massachusetts, in 1869, legislated into existence the first State Board of Health and Vital Statistics organized in the United States. This prolonged effort was, no doubt, used in conciliating that legal maxim which declares that, “no law can successfully precede its public sanction,” and serves to explain, at least, in part, the preëminent success of this Board. However, the Governor did

exercise, in the choice of the members of the Board, an amount of discretion very unusual to politicians when acting in medical matters; and the Legislature beginning with an experimental appropriation of \$3,000 for the first year, has rapidly trebled it. The acknowledged superiority of this Board is sufficiently proved by this fact, among many others, that it did at once recognize that the greatest obstacle to sanitary progress was popular ignorance, and therefore that its primary duty was to teach the people. Hence it at once organized a corps of reliable correspondents throughout the State; it solicits reports from, and issues circulation of information to, all the doctors, preachers, teachers, county and State officials, newspapers and journals in Massachusetts; and, in addition, it issues and freely distributes more than 10,000 copies of the most valuable annual health report ever published in this country. Thus, by enlightening the public, it has gained its favor, and has thereby increased its own power and the bounty of the Legislature. So great is this power that it triumphed over a financial combination of fifty slaughter-houses, and converted these health and life-destroying nuisances into sanitary blessings; it made war in Boston on the pestilence-breeding "houses of the poor," and thus so alarmed the politicians who, loving their country much, love votes, even of the sick pauper, more, that the Board summoned to its support a mass-meeting of the people and was sustained.

Some few of the other eighteen State Boards of Health—notably that of Michigan—increase the hopes inspired by Massachusetts' example; but it is a sad truth that a majority of these Boards are, through legislative or gubernatorial action, mere burlesques on sanitary science. Louisiana has legislated on *paper* a State Board of Health and Vital Statistics; but in reality we have no State, merely a city, Board of Health, organized under laws which nobody except politicians (and a designing or ignorant class of these) can possibly approve. The efforts of the "Legislative Committee" of this society to improve these laws deserve careful consideration, and probably our support. If consolation is derivable from the superior folly of others, then Louisiana is consolable; for some other States have certainly surpassed her. Georgia, Virginia, and, alas! my native State, Mississippi, have legislated State Boards of Health into existence, have imposed on the officers onerous and expensive duties,

and then have appropriated for the execution of these laws and the discharge of these duties—*not one cent!* But in any record of legislative quackery, North Carolina cannot be omitted, for her Legislature, apparently emulous to humiliate Virginia (1874), Georgia, (1875), and Mississippi, (1877), passed a similar law (1877), requiring the discharge of equally onerous and expensive duties, and then enacted “Section 5,” which deserves a prominent place in that Sanitary Museum which we some day will have, as Great Britain now has. It reads: “For the purpose of defraying the necessary expenses of the Board of Health of the State of North Carolina in the discharge of its official duties, there shall be paid annually out of the treasury of the State to the treasurer of the said Board of Health, upon the requisition of the President and Secretary thereof, the sum of one hundred dollars.”\*—*Pacific Med. and Surg. Jour.*

## QUEBRACHO, A PALLIATIVE REMEDY IN DYSPNŒA.

Dr. F. Penzoldt, of Erlangen, (*Berl. Wochenschrift*, Nov. 9, 1879), narrates some experiments, both on man and animals with a new drug, the bark of *Aspidosperma quebracho* (*Apocynaceæ*), sent from Brazil, where it is reputed to have antipyretic properties. The form of preparation used throughout was a watery solution of an alcoholic extract of the bark, ten parts of the latter being percolated with one hundred of alcohol for several days, and the liquid filtered, evaporated to dryness, and the residue dissolved in twenty parts of water.

The main results obtained in frogs was complete motor paralysis of central origin, respiratory paralysis, and diminished frequency of the pulse, independent of irritation of the vagus. In rabbits and dogs, motor paralysis and dyspnœa, increasing with the dose administered, were noticed. The dyspnœa in the rabbits, however, appeared to depend on retardation and deepening of the inspirations;

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\*It is gladly announced that on March 14, 1879, North Carolina enacted a much improved Board of Health law, which is, however, still defective, specially as to an adequate appropriation.

while in the dog the inspirations were accelerated. In the latter, also, there was salivation.

Experiments on animals with artificial fever, produced by injecting putrid fluids, showed no decided reduction of temperature, and hence quebracho is probably not, as was supposed, an antipyretic. It should be added that it is not an antiseptic, but only temporarily retards putrefaction. The results obtained in actual cases of fever in men were also negative ; but Dr. Penzoldt thinks that, considering the close chemical relationship between the alkaloid "aspidodermin" which Baeyer has extracted from quebracho-bark and quinine, the subject requires further working out in this direction.

By the accidental observation of a patient with pleurisy and emphysema, on whom the anti-febrile effect quebracho was being tried, Dr. Penzoldt was led to try the bark in various forms of dyspnœa, depending on emphysema, bronchitis, phthisis, pleurisy, etc., and obtained remarkably good results. A teaspoonful of the above mentioned solution was given two or three times a day. The most marked objective phenomenon after its exhibition was a reddening of the previously cyanosed or livid tint of the lips and face. In a case of emphysema where the patient was blessed with a nose the seat of acne hypertrophica, the ordinary violet-blue color of the organ became fiery red, and excited the surprise of the other patients in the ward. The respirations generally became deeper and less frequent, and the patients expressed themselves subjectively much relieved. The first feeling after taking the drug was one of warmth in the head ; many said that they had less desire to cough, and that they found expectoration easier. Occasionally sweating occurred, and in some cases abundant salivation. No bad effects were noticed with the dose mentioned.

Dr. Penzoldt finds that the addition of quebracho solution to the blood, in the presence of oxygen, makes it assume a bright red color, and he is inclined to think that possibly the blood is rendered capable of taking up more oxygen than usual, and carrying it to the tissues. This is, however, merely a provisional hypothesis, and at present there is no satisfactory explanation of the fact that, while moderate doses of the extract alleviate dyspnœa in man, large doses cause dyspnœa in the lower animals.

As yet, quebracho is not a commercial product, but the *wood* is

Imported in large quantities for tanning purposes. The action of an extract of the wood is similar to that of the bark, but weaker. The alkaloid aspododermin affects the frog, on the whole, just as the extract of the bark does.—*Medical Times and Gazette*, July 12.

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## THE HAVANA COMMISSION.

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Dr. Chaillé, Chairman of the Havana Commission, writes as follows, under date of July 18 :

As to the sanitary commission of Havana and of its harbor, it would be difficult to devise conditions more favorable to propagate disease. Built upon thin layer of earth which covers extremely porous coral rocks, this foundation is deeply saturated with the excrements of many thousands of human beings, and of animals, continuously deposited throughout a long series of years. Nothing can be worse or more offensive than the privy system of Havana. Associated with the evil hygienic conditions of the city the harbor is, if possible, in even fouler condition.

This harbor, about one mile long, two-thirds of a mile wide, and some thirty feet deep in the deepest places, has a difference between its minimum low, and its maximum high tide of less than two feet; and into this almost stagnant pond is daily poured the sewerage of the city, the offal of the slaughter-houses, and the refuse from at least two large hospitals habitually infected with yellow fever and located on the very edge of the harbor. The foecal odor from this harbor is often distinctly perceptible.

Among other things done I, at the suggestion of Dr. Daniel M. Burgess, of Havana, to whom I owe much, have inspected the ballast sold to and transported by ships from this port. Repeatedly has the ballast from this port been accused of causing outbreaks of yellow fever in ports of the United States, and as repeatedly has this been discredited. I have no hesitation in asserting as the result of personal examination, *that if there be anything* whatever which can serve as fomites to transport yellow fever poison that the ballast from this port appears to be eminently fitted for this purpose. In my

opinion, the National Board of Health should at once adopt such measures as may be needful to protect our ports against the dangerous risks they are subjected to by all ballast from this port.

Dr. George M. Sternberg, Secretary of the Commission, says :

I find that the air of our laboratory is loaded by minute spherical organisms, and contains bacteria not distinguishable from bacterium termo. I have made some experiments for testing apparatus designed for the purpose of keeping putrid fluids germ-proof, using for my test the liquor from the interior of an unripe cocoanut. This liquor possesses properties which will, I believe, make it of great value. \* \* \* It is transparent as water when the nut is not too ripe, is contained in a germ proof receptacle (the cocoanut), and when exposed to the air, bacteria and other organisms develop with astonishing rapidity. In my first experiment two portions from the same nut were placed in small beakers, one exposed to the air and the other protected by the glass cover and bell-jar (Lister's apparatus), with previous precaution of heating apparatus to 320°. The following morning the portion exposed to the air was milky in appearance and loaded with bacteria large and small, and had upon its surface a pellicle containing the cells or some fungus ; the portion under the bell-jar was clear as water. I have succeeded in keeping this liquor in quantity for three days in a Florence flask, made germ-proof by heating to 320° Fahrenheit, and provided with a cotton germ-filter.

I have made several good negatives of bacteria developed in cocoanut liquor for the purpose of testing my lenses and apparatus. I propose to continue the experiments commenced during the ensuing week.—*National Board of Health Bulletin*, July 26.

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#### ANOTHER VERSION OF THE HISTORY OF THE INFECTED "PLYMOUTH."

All the accounts heretofore given of the U. S. Steamer Plymouth lead to the inference that this vessel was laid up during the winter at Portsmouth for the purpose of freezing out the lurking disease poison, and that the winter being exceptionally cold, ice formed in

all parts of the vessel. Now we learn from the *Medicus* in the *Bos-Med. and Surg. Journal* (July 24, 1879) the following:

A few facts concerning the condition of the U. S. Steamer Plymouth, during the winter of 1878-79, may be of interest at the present time, as some published reports concerning her are not quite accurate, or omit important points. The Plymouth arrived at Portsmouth, N. H., December 1, 1878, where she remained sixteen days, during which time she was heated by steam, rendering her comfortable for officers and crew. She arrived in Boston harbor, December 17, 1878, and left for the West Indies March 15th, 1879. During this time she was warmed by steam and occupied by her officers and crew, except for about four weeks, thirteen days of which time she was in the navy yard dry dock. For this time her officers and marines lived on shore, and her crew were transferred to the receiving ship, with their clothing and bedding. While in dock the Plymouth was fumigated three times, one hundred pounds of sulphur being used. Most, but not all, the stores were removed from the ship. The cold was such that ice formed and remained several days in most parts of the ship, but much of the time there was a fire in a coal stove in the fire room for the use of the workmen.

Before her arrival in Portsmouth the Plymouth had seven cases of yellow fever, three of which were fatal. On March 21, 1879, six days after leaving Boston, and without touching at any port, yellow fever reappeared, when the Plymouth started for Portsmouth. Two cases occurred, one fatal.

On her first arrival in Portsmouth the medical officer recommended that the Plymouth be put out of commission. While frost will put a stop to the progress of an epidemic of yellow fever, it is clear that a long-continued temperature considerably below the freezing point is indispensable for the protection of a ship once impregnated with the poison, if cold is relied on for the purpose.

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A Russian physician, M. Malacovsky, struck by the prevalence of short-sightedness among literary men, proposes that books should be printed in white ink on black paper, and he has made experiments with fifty persons which tend to confirm his view.—*Weekly London Times*.

CIRCULAR NO. 6.—RELATIVE TO DISINFECTION AND  
PRECAUTIONARY MEASURES.

NATIONAL BOARD OF HEALTH,

WASHINGTON, D. C., July 28, 1879.

The following memorandum on disinfection for limiting the spread of yellow fever are published as a summary of existing knowledge on this subject. This knowledge is far from being precise, and the Board has taken measures to have the effect of disinfectants, and more particularly of gaseous or volatile disinfectants, upon the lower organisms, both moist and dry, carefully investigated. This investigation will require much time, but the results will, it is hoped, repay the cost.

1. It is prudent to assume that the essential cause of yellow fever is what may for conciseness be called a "germ," that is, something which is capable of growth and propagation outside the living human body; that this germ flourishes especially in decaying organic matter of filth, and that disinfection must have reference both to the germ, and to that in or on which it flourishes.

2. Disinfection, when used in a place not infected, for the purpose of rendering filth, or foul soils, waters, &c., incapable of propagating disease germs, is a poor substitute for cleanliness, and is mainly useful to make the process of cleansing odorless and harmless. The best disinfectants for this purpose are sulphate of iron, carbolic acid, fresh quick lime, fresh charcoal powder, chloride of zinc, chloride of aluminium, and permanganate of potash.

3. The two great difficulties in destroying the vitality of the germ, of yellow fever are, first, to bring the disinfecting agent into actual contact with the germ; and, second, to avoid injuring or destroying other things which should be preserved.

4. *When the germ of yellow fever is dry or partially dried no gaseous disinfectant can be relied on to destroy it.* It must either be moistened or subjected to a dry heat of not less than 250° F. to obtain security.

5. In disinfecting or destroying infected clothing, bedding, or movable articles, *move them as little as possible while dry.* Before disturbing them have them thoroughly moistened either with a



chemical disinfecting solution or with boiling water, in order to prevent the diffusion of dried germs in the air in the form of dust.

6. The best method of disinfecting rooms, building ships, &c., is still doubtful, owing to the difficulty of destroying the vitality of dried germs.

The Board proposes to have this subject carefully investigated, and in the meantime advises thorough scrubbing and moist cleansing to be followed by the fumes of burning sulphur at the rate of 18 ounces per 1,000 cubic feet of space to be disinfected.

The sulphur should be broken in small pieces, burned over vessels containing water or sand, which vessels should be distributed in the closed space to be disinfected at the rate of one to each 100 square feet of area of floor.

7. No patented compound known to the Board is superior as a disinfectant to the agents above mentioned, and none is so cheap. Some of these patent disinfectants are good deodorants, but *the removal of an unpleasant odor is no proof that true disinfection has been accomplished.*

8. In districts where yellow fever prevailed last year the following precautionary measures should be taken :

(a) Textile fabrics of every description which were exposed to yellow fever infection during the year 1878 and which have remained packed or boxed in a closed place since such exposure, should not be opened or unrolled, but should either be burned or placed in boiling water for half an hour or more, or in suitable heated ovens, or disinfected according to the nature and value of the individual article or articles.

(b) Every house or room in which cases of yellow fever occurred in the year 1878, and since that time have remained unoccupied, should not be opened for occupation until they have been thoroughly cleansed and disinfected by persons acclimated to yellow fever.

(c) Every privy, vault, underground water-cistern, dry well, or closed cellar connected with a house in which yellow fever existed last year, and which may not have been opened since that date, should not be reopened, but if possible should be covered with several feet of earth.

(d) Every suspicious case of sickness should be at once isolated,

and every possible precaution taken to prevent infection by providing attendants who have had the disease, and thorough disinfection of all discharges from the sick. If the disease prove to be yellow fever all articles of clothing and bedding used about the sick should be burned, the house should be vacated, and every room tightly closed and fumigated with burning sulphur.

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### HYRTL ON THE ANATOMISTS AND HISTOLOGISTS OF THE PRESENT DAY.

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A prominent characteristic of the anatomical spirit of the present age is : that practical anatomy is always retreating more and more in the background, and the microscope is supplanting the scalpel. Old and young work, or toy, with the microscope ; and all anatomical investigations to be undertaken with the unaided eye are left with a sort of contempt to the surgeon ; and what trash has been brought to light through perishable literature, in the department of histology. Were everything true that is written, we could then rejoice that such an abundant spring had arisen from ground so long barren. But so many discoveries have passed away just as they came. They have filled the pages of a journal—have thereby fulfilled their duty and been forgotten. Surgery alone has remained the friend of solid anatomy and dissecting ; but even it cannot be regarded as a grateful friend. Surgery, in everything it does, has in view a prospect of success at healing ; whilst practical medicine, great in diagnosis and prognosis, has not the same prospect of making brilliant cures, although it ascribes to itself some of the most successful cases of *bona fide* cure.

He who wishes to learn of the numerous and instructive uses to which descriptive and topographical anatomy are applied in all branches of the healing art, outside of the writings of German anatomists of a good school, will find them especially in the works of French surgeons. The physician, whose interest it is in the study of anatomy to appropriate what is the best, will not quarrel with our neighbors on the Rhine over their advantage in this regard. It is, therefore, with no foolish preference for what is

foreign, that I thus address those whose contracted views only allow them to be pleased with that which is native to their own country. It will also be granted that for the treatment of internal diseases in the present state of medical science, the knowledge of the topographical relations of organs in the diagnosis of their diseased conditions and the scientific investigation of symptoms of disease, is more useful than a knowledge of the medical controversies about their histological construction.

It may be that the old and steadfast practical anatomist, in shirt sleeves and leather apron, may not appear as elegant as his younger and microscopically inclined brother, with his kid gloves and cuffs; but the practical anatomist, even if the younger generation be dissatisfied with him, will ever receive the thanks and respect of all physicians to whatever school they may belong—*Topographische Anatomy*, p. 5., J. C. Mc. M., in *Lancet and Clinic*.

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*Physiological Albuminuria.*—Professor Leube (Virchow's Archiv. Band LXXII., Heft 2) found that out of 119 healthy soldiers, 5 or 42 per cent. had albumen in the morning urine; while 19 out of 119, 16 per cent. had albumen in their midday urine, after marching on parade. There were no cases or blood corpuscles; the chief deposit was urates. The specific gravity showed no constant results. Those soldiers in whom albuminuria was found, were carefully examined, and were found to be quite free from pathological changes. The albuminous substance was discovered in the ordinary way, by boiling and acetic acid, but gave the reactions of serum albumen when separated and subject to the tests.—*London Medical Record*.

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*Trichinæ Detected by the Naked Eye.*—Dr. Francis Vacher, of Birkenhead, England, says in a paragraph in the *London Lancet*, (dated Feb. 26th) that "trichinæ in pork can usually be seen without the aid of a magnifier, the flesh being distinctly speckled. The white specks come out clearly if a thin section of muscle be treated for a short time with liquor potassæ and water (1 to 8), as recommended by Dr. Parker. When the capsule is dense, the same author suggests the addition of a drop of weak hydrochloric acid. To see the coiled up worm itself all that is necessary is a good pocket lens."

THE CRONICA MEDICO-QUIRURGICA DE LA HABANA.

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This is a valuable monthly periodical of which we have before us the July number. It is now in the fifth year of its existence.

We cannot help noticing among its original articles a full account of a case of "Congenital Amaurosis" spontaneously cured by the first flow of the menses, which took place in the fifteenth year of the young person. Frequently examined by competent observers no structural anomaly of the organs could explain the total absence of vision. One morning while still in bed, she uttered a loud shriek, jumped out of bed, was found by her mother under the influence of intense fright; she has seen the objects in her bedroom. She was coaxed to her bed and her mother then noticed the blood on her garment, her first menstrual discharge. She is now 22, the eyes are large and bulging, she is myopic, reads the finest prints at a short distance; but for distant vision wears concave glasses, No. 8. A recent examination shows the structures of the eye to be quite physiological.

It gives us great pleasure to notice among our Island neighbors signs of progress as instanced by the recent formation of an Odontological Society in Havana, many of whose members have, doubtless, been educated in our Dental Colleges, also, by an application to the University of that city for the establishment of an Obstetrical and Gynæcological Clinic. A Medical College in Havana attached to the University, has been for many years in a flourishing condition.

We read also that, among other diseases, the troops engaged in the recent civil war suffered much from gangrenous ulcers of the legs. Fatigue, exposure to intense heat, damp and malaria so predisposed the system that the sting of an insect, the chafing of the boots, a slight eruption, were sufficient to develop the gangrenous ulcers.

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*The New Soluble Quinine*, is prepared by combining twenty parts of muriate of quinia, twelve of muriatic acid, and three parts of urea. It being soluble in equal parts of water claims attention for hypodermic uses. A much smaller quantity of quinine prepared in this way is required.

## REVIEWS AND BOOK NOTICES.

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A CLINICAL TREATISE OF THE DISEASES OF THE NERVOUS SYSTEM. By M. Rosenthal, Professor of Diseases of the Nervous System at Vienna. With a Preface by Professor Charcot. Translated from the Author's Revised and Enlarged Edition. By L. PUTZEL, M. D. New York: William Wood & Co., 27 Great Jones Street. 1879. Pp. 278.

Except to those physicians familiar with German medical literature, this book will be new. It comes to us with such a recommendation from Professor Charcot as to insure its early adoption by American physicians, and, moreover, the publishers have put it within the means of the stingiest and the most impecunious medical men.

Professor Charcot says in the preface to his translation. \* \*  
 "It is very certain that the materials placed before us, as well as the spirit of the work, have been derived by the author from a long career devoted to the study of disease: the care bestowed upon the symptomatic description is sufficient testimony to the fact. It is undoubtedly true that the subject could hardly have been arranged more harmoniously, nor could the pathological description appear in more vivid and striking colors: but it would be difficult to push further than has been done in this work, the constant habit of examining questions from all points of view."

The analysis of the chapter on Cerebral Apoplexy (p. 38-55) will give a good idea of the author's method of treating the subject.

"*Pathological Anatomy and Physiology.*—Capillary hemorrhages appear as small points, nearly as large as a millet seed, and situated more or less closely to one another. They are usually found in the gray substance of the convolutions or central portions. The surrounding parts are softened, reddish, tinged with blood, the nerve fibres are separated, and the capillaries are softened, friable, and infiltrated with granulo-fatty matter. Virchow has shown that capillary hemorrhages cause either hemorrhagic infarctions in consequence of capillary embolism, or the commencement of red-softening, or finally capillary dilatations. According to Rokitsansky, capillary hemorrhages may be situated so closely, as to constitute a large foyer," (focus).

\* \* \* "The hemorrhagic foyer rarely contains less than 3-4 grms. of blood, and more often the quantity varies from 20-60 grms. Recent hemorrhages contain the remains of small vessels which present considerable changes in their walls, in addition to blood and debris of cerebral substance."

An examination of 103 autopsies at the Vienna General Hospital gave the following results: The seat of the hemorrhage in more than two-thirds of the cases was in the corpus striatum and lenticular nucleus. The lenticular nucleus in rabbits is chiefly an organ for the transmission of motor impulses, and according to the results of Nothnagel's experiments, when injection of chromic acid are made into the anterior or middle portions, of the corpus striatum produced analogous motor disturbances. Ferrier's experiments upon the monkey and other animals, demonstrated that the corpus striatum acts upon the muscles of the opposite side of the body."

He now goes on to investigate the course and sequences of a cerebral hemorrhage. "Recovery usually takes place by the formation of false membrane, and by the secretion of a fluid which dissolves the blood clot and the debris of the cerebral tissue. This assumes a yellowish or brownish color from admixture with derivatives of hematine. The cavities thus formed are traversed by pigmented vascular bands of connective tissue and contain a yellowish fluid. These cavities are formed within two or three months after the occurrence of the hemorrhage, and are known as apoplectic cysts. In favorable cases, the connective tissue retracts, the walls approach one another and coalesce, the capillaries become obliterated and a stellated cicatrix results.

"Great importance must be attached to the secondary lesions of nutrition which are produced as a consequence of hemorrhages in the paths of transmission of motor and sensory impulses. (p. 40).

Special physiological and pathological phenomena of the motor tracts are considered one by one, with the conclusion that "the sensory fibres decussate in the middle medulla oblongata, passing through its posterior part, and through the external fasciculus of the foot of the cerebral peduncle, and terminate in the tissues situated between the cerebral ganglia in the posterior external portion of the optic thalamus, and in its connections with the occipital, and perhaps with the temporal lobe. Pathological facts serve to show

the central seat of sensibility in the brain better than physiological experiments."

*Etiology.*—It is pointed out under this head that rupture of the cerebral arterioles arises from the "degeneration and weakness of the vascular walls, or from an increase in arterial pressure, or from both combined, or the rupture may be due to the debilitating effect of certain diseases upon the vascular tissues, or, finally to degeneration of the cerebral tissue which has, at a later period, involved the blood vessels."

These points are further elaborated, and diagrams of the brain are given showing the external and internal distribution of the middle cerebral artery. We are indebted to the enterprise of the translator, Dr. Putzel, for the illustrations, as they do not occur in the original work.

*Symptomatology* is treated in an exhaustive or satisfactory way. First the general symptoms are given, interpreting the meaning of them, and secondly the special symptoms as depending upon the seat of the hemorrhage are given in detail.

*Diagnosis and Prognosis.*—The difference between cerebral tumors, apoplectic hemiplegia, and spinal hemiplegia are described. In the matter of prognosis very little is added to existing knowledge.

*Treatment.*—In treatment the author points out that "if symptoms of increased vascular tension (which goes hand in hand with increase of cerebral compression) appear after the attack, if there is turgescence or intense redness of the face, or considerable injection of the conjunctiva, if the carotids and radials pulsate with force, and if the temperature is raised, venesection should be immediately performed in strong, well-nourished individuals. Venesection should also be performed if signs appear which indicate a threatened second hemorrhage. In weak, cachectic patients, with cold skin and feeble pulse; the employment of leeches and cold applications should be substituted for venesection." \* \*

The hydropathic treatment in apoplexy, is given with the calmness and fairness of a master of the art of medicine. In all this work, predominance is given to the cold water treatment, and always with prudence and sound sense. For the judicious management of hydropathy, Professor Charcot applauds Dr. Rosenthal, and we can safely share the enthusiasm of the French and American translator, in their admiration for the whole work.

We wanted to enter our protest against the meagre index, but perhaps this very fault will lead the reader to plod patiently for himself page by page, and then he will not esteem our admiration misguided.

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MANUAL OF THE PRINCIPLES AND PRACTICE OF OPERATIVE SURGERY. By STEPHEN SMITH, A. M., M. D. Surgeon to Bellevue and St. Vincent Hospitals, New York. Boston: Houghton, Osgood & Co. 1879. Pp. 689.

This book is the "result of an effort to realize" a request often made by medical practitioners and students, that the Handbook of Surgical Operations prepared by Dr. Smith in 1862, and which was acceptable on both sides of the lines in the late war, should be enlarged so as to include the general operations of surgery in civil practice.

It has not been many months since a manual of Operative Surgery by Stimson and another by Meares, was given to the medical public, but still there is room for this one. Its design is quite different from either of the other works.

The qualifications of the surgeon is defined, the author believing "the true estimate of them is found in the civil obligation which he assumes whenever he undertakes the care of a case. The judicious discrimination which the common law makes of the relation of qualifications to time, place and circumstances, are far more judicious than has ever been defined by any professional code." "It follows" he continues "that as conformity to the established principles of an art as a fundamental requirement of the civil obligation upon those who practice such art, a manual of this character should as far as practicable illustrate those principles."

In order to carry out this idea, the author has given frequent marginal reference to authorities consulted. Under the head of OBLIGATION, the responsibility of the surgeon is defined, not by the standard of the Code of Ethics, but upon the foundation of the opinions of Chief Justice Waite, Espinasse, S. D. Gross, C. Sédillot, Justice Tyndall, and the case of Leighton vs. Sargeant. And so through all of his teachings on these important questions the standard of judgement is that of the serious business of the world and not beautiful but dead moral ideas. So far as we know



no other work on surgery has attempted to present the legal authority of the decisions of the Courts, as bearing upon the duties of surgeons to their patients, and its value is greatly enhanced thereby.

The short chapter on the general science of prognostics most beautifully reveals the ripeness and fullness of judgment of the author. Skill in prognosis is a gift won only by careful personal observation and comparison, but to teach it to others, is a gift of a still higher character, and belongs rather to that generation of polished writers of the early part of the century than to our own times. It would be difficult to crowd in seven paragraphs so much desirable knowledge as Dr. Smith has given us in these on prognosis. The chapter on Anæsthesia is one all readers will turn to with real interest, for of late years the party lines of anæsthetics have been distinctly drawn. We are, therefore, pleased to see such a dispassionate view taken of the comparative merits of nitrous oxide, sulphuric ether and chloroform. Nitrous oxide is spoken of as safe, ether as safe and reliable, and chloroform as "rapid, certain and effective" \* \* "but unfortunately, sudden and overwhelming paralysis of the heart, commonly called cardiac syncope, which is beyond human skill and knowledge to foresee or prevent, occasionally causes death by it." It would be fairer to say though, about anæsthesia generally, that it is a condition of danger, and the danger is due not to the specific influence of any particular anæsthetic agent, so much as to the condition itself. For we have seen all but fatal syncope from nitrous oxide, from bichloride of methyl, but never from chloroform or ether, and it is well-known that deaths have occurred from all of these agents named.

The dressing of wounds is treated with minuteness and good judgment. The antiseptic, the ordinary, the open, and the hot water treatment all occupy the attention of the author. Thorough directions are given as to all the details of care for the patient, as though the author was exceedingly impatient with slovenliness. We do not see how a surgeon could do better than follow out the steps here given one by one, in order to put his patient in the most favorable condition for recovery.

In the emergencies of surgery, preference is given to Dr. Howard's plan of artificial respiration, although Marshal Hall's and Sylvester's are mentioned.

We must confess to some disappointment that Dr. N. R. Smith's anterior splint is not mentioned, while the suspensory splint of Dr. Hodgen is given prominence. But the whole subject of fracture is brought down to the latest day, even Pilcher's treatment of fracture of the wrist not being too recent to find a place.

The whole range of operative surgery has been treated in this volume except the organs of special sense, and the touch of the master is everywhere evident. No such work on operative surgery has emanated from an American source before, and we are mistaken if this volume will not be preferred to the more costly foreign ones that for so long a time have served as the guide of surgeons, and the basis of authors.

The mechanical execution of the volume is excellent, the type clear and distinct.

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METHOD FOR PERFORMING POST-MORTEM EXAMINATIONS. Adapted from the German Regulations of 1877. By THOMAS F. WOOD, M. D. Secretary of the North Carolina Board of Health. Pp. 32. Raleigh: The Observer, State Printer and Binder. July, 1879.

The duty of making medico-legal post-mortem examinations, devolves upon the County Superintendents of Health, by the new State law, and the pamphlet was issued by the Board "for the purpose of putting before those officers the latest and most approved plans for conducting such examinations, and to establish a uniform method." The ultimate design of this movement is not only to collect statistical information as to the causes of death, but also to furnish at a glance such items as will enable the law makers to institute the reforms in coroner's inquests as may be thus indicated.

This pamphlet was modeled after the painstaking German method, so highly approved by Professor Virchow.

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PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A. M., M. D. Forty-eight covered plates taken from life. Price \$2.00 a part.

The second part of Dr. Fox's illustrations reassures us that there is more to be learned from photographic illustrations than from the more brilliantly colored lithographic plates. In the present number we notice especially the case of Itchthyosis, as being a more

truthful portrait than any we have seen. One has almost to pass the finger over the picture to satisfy the senses that the scales are not real. The three other photographs in this number are quite as instructive as this, and we are confident that experience will award the palm to this method of teaching skin diseases. We recommend to our readers to become subscribers at once, and they will not regret it.

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THE AMERICAN ARMAMENTARIUM CHIRURGICUM. Geo. Tiemann & Co., 67 Chatham Street, N. Y. Pp. 589. With 2,250 first-class wood engravings.

A sumptuous volume descriptive of surgical instruments made by Messrs. Tiemann & Co., with illustrations everywhere abounding. The mechanical devices here figured show a fertility of resource which would be creditable to mechanics in any departments of mechanics. The book is sent to physicians for \$1.00, "*the actual cost of binding*," and 35 cents added for postage.

Inventors, novices, practitioners, young surgeons, old surgeons, instrument makers, authors, and very many other people can afford to look over Tiemann's Catalogue. Especially do we ask inventors to quit "inventing" until they consult these pages.

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*The "Post-Partum Artery."*—A student was "plucked" at Bellevue Hospital Medical College, in 1878, for giving the following answer when asked, in his final examination, "What would you do for post-partum hemorrhage?" "I would tie the post-partum artery." It is needless to say that he was "passed" by the learned faculty of another college the present year.—*St. Louis Clinical Record*. Are we to infer from the latter statement that the student applied himself assiduously to study, *post pluckum*?—*Michigan Medical News*.

[The publication of the above is *not* a banter for members of the N. C. Board of Examiners to relate their experience. We think though it would be rare reading to go through the answers to questions given by some *graduates*.]

## MEDICAL ANNOTATIONS.

*Valuable Application of the Clinical Thermometer.*—One of the most valuable applications of the thermometer is to the mouth of a garrulous patient five minutes, to enable the doctor to have quiet breathing time in which to write his prescription.

*Sudden Death from Exploration of the Rectum with the Hand.*—We see the announcement that a patient recently died after exploration of the rectum of the hand, in search of carcinoma of the bowels. Post-mortem examination revealed a rent in the peritoneum. A reasonable prudence has long ago dictated that such methods should be held in reserve only for extraordinary occasions.

*A Third Corpuscular Element in the Blood.*—Dr. Norris exhibited at a *conversazione* given by the College of Physicians and Surgeons, of London, on the 2d of July, a series of transparent micro-photographs, demonstrating the existence of a third corpuscular element in the blood. It has hitherto escaped recognition because it possesses the same color and refractive index as the *liquor sanguinis*, and is therefore invisible when submerged.

*Ponder! Ye Anti-Blood Letters!*—The following paragraph from the *History of Medicine in New Jersey*, by Dr. Stephen Wickes, contains the following anecdote: An old friend and neighbor of mine informed me that my great grand-father and my grand-father bled him when he was about sixteen while in New Jersey. When a young man he removed to Pennsylvania and settled near my father, and he bled him; later in life I bled him; and in advanced life, being of plethoric habit, my son also bled him; making five successive generations in the family, who bled the same subject, with marked relief, and he lived to be eighty-five years old.

*Precepts for Sea-Bathing.*—Dr. Conguet-Alberto gives hygienic rules for sea-bathing, the sum of which are compressed in the quaint precepts of Dutroleau, on the mode of those of the Academy of Salerno, read thus:

1. Avant le bain tu marcheras, Pendant un bon petit moment.
  2. Puis tu le déshabilleras, Sans hâte, mais rapidement.
  3. Dans l'eau tout de suite entreras, Sans flâner au bord nullement.
  4. Tout d'un coup tut'y plongeras, De la tête au pied carrément.
  5. Dix minutes y resteras, Toujours, toujours en mouvement.
  6. Enfin, lorsque tu sortiras, Tu te vêtiras chaudement.
- London Medical Record.*

## TO OUR READERS.

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### WINE PRODUCTS OF NEW JERSEY.

This State is becoming celebrated for its wines. Some of the richest in the world are produced in New Jersey by Mr. A. Speer, whose name has become celebrated as a producer of strictly pure unadulterated Port Grape Wine. The wine of Mr. Speer is not bottled or put in market until it is four years old, and has become thoroughly fine and mellow. It has proved itself a wonderful assistant to physicians, who prescribe it from the fact that they have hitherto found it difficult to obtain a pure Wine. This Wine is recommended for debilitated persons ; and is given to consumptives. The difficulty of getting an imported or even a pure California Port is well understood to be so great as to preclude Doctors from allowing their patients to run the risk of its use. Mr. Speer being aware of this fact has taken the utmost care in the making of his Wine, so as to supplant the imported Wines by producing a genuine article. His Wines are known by chemists to be pure and the most reliable for medicinal purposes. The Druggists throughout the country sell it, as bottled by Mr. Speer.—*N. Y. Tribune*. Sales-room 34 Warren Street, N. Y.

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### BOOKS AND PAMPHLETS RECEIVED.

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National Board of Health Bulletin, Nos. 2, 3, 4, 5, 6 and 7.

The Summer and its Diseases. By James C. Wilson, M. D. American Health Primer. Lindsay & Blakiston. Philadelphia, Pa. Price, 50 cents.

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# NORTH CAROLINA MEDICAL JOURNAL.

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**M. J. DeROSSET, M. D.,**  
**THOMAS F. WOOD, M. D.,** } Editors.

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## ORIGINAL COMMUNICATIONS.

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### PUERPERAL CONVULSIONS.\*

By R. I. HICKS, M. D., Casanova, Fauquier, Co., Va.

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In the course of a practice extending through twenty years, I have had about an average number of cases of puerperal convulsions. It has so happened that it has been my most excellent fortune to have lost no case. Whether this has been the result of treatment, or simple good fortune—mere fortunate coincidence, I shall not presume to say.

One case, to which I was called, was destroyed by the first convulsions; she had been dead about one half an hour on my arrival.

Two cases, I saw die while I was a medical student, in the charge of another physician. Had he been in possession of the remedies of the present day he might have saved them.

My observation has brought me to the recognition of two typical forms of eclampsia. Clinical facts I may add generally precede the

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\*Read before the Medical Society of North Carolina at Goldsborough, N. C., and published by request.

establishment of theories. For instance, I will cite two cases as illustrative of the two types.

Case 1st. was that of a Mrs. E., she was young, of fair complexion, of good health, and about 21 years of age. She was admirably developed, and in her first labor, without premonition of any kind, without oedema—but with a bright face—a glistening eye, in a condition of apparent cerebral excitement, in the first stage of labor, she went suddenly into a violent convulsion. Being called without delay, I bled her in both arms and applied a new scarificator to the nuchum or posterior cranium. She bled freely from all these points, without a return of the convulsion or any unpleasant symptom, and with no further interference she went to a perfect labor in about fourteen hours. Her memory with regard to events occurring during the intervening period was obliterated.

Other similar cases, with similar results have occurred to me. One in particular, occurring in a lady rather advanced, and who had been the mother of eight or ten children previously, I ascribed the convulsion to laudanum taken in the commencement to relieve incipient labor pains, mistaken for colic.

In all such cases as the above, in my judgment, the lancet cannot be dispensed with: there is cerebral congestion which must be relieved.

In August, 1876, I was called to see another case. It was in the person of a young woman—a primipara. She had had no convulsion, but the unusually dull, heavy expression of her face, had alarmed her parents, and induced them to seek medical advice for her. I found her face puffy and expressionless, and her legs and feet oedematous. She was very stupid. I put her on purgatives and diuretics and left her. After some 36 hours, I was again sent for; I found she had just had a convulsion. I bled her, purged her, and put her on diuretics. Convulsions did not recur, but stupor steadily supervened. The kidneys did not resume their eliminating function properly. My friend, Dr. Young was called in consultation. As the stupor increased and the urine continued heavily laden with albumen, after watching the case carefully for two days, we concluded, that without relief she would speedily pass into a state of profound coma and die. We, therefore, determined to bring on premature labor. Concluding, as I think, very properly, that this



only would restore the proper function of the kidneys. The membranes were therefore ruptured, labor came on, a premature birth was the result, the child surviving about 24 hours. The kidneys resumed their function and perfect recovery soon followed.

When the kidneys are interfered with in their action, albumen is generally eliminated. When you find the urine loaded with albumen the urea is not eliminated and uræmic poisoning is the result. If the functions of the kidneys can be properly restored, these symptoms, I think, will disappear, and stupor and convulsions may be warded off. Recently, I attended a woman in labor, whose face and legs were œdematous. My attention to her during labor was very strict, without which I think she might have gone into convulsions. But whenever any symptom manifested itself, I applied chloroform until the labor was finished. The next day I was called to see her on account of the sudden alarm of the family. In their homely style, they informed me that the woman was frenzied. She seemed conscious of the fright she had caused them, but told me there was nothing the matter with her, except she had lost her memory, which I found to be the fact. Purgatives, and diuretics soon restored the functions of the kidneys, and brought perfect relief which, I think, was now possible as the pressure of the gravid uterus was relieved.

Although this is no new disease, being as old as the medical profession, its etiology is still in dispute. A lively investigation is going on at present, which I hope may end in the settlement of this vexed question. Ferriehs ascribes eclampsia to uræmic poisoning. Altogether this theory is untenable because of the fact admitted by Fordyce Barker and others, that convulsions may occur with or without albumen in the urine. I believe this is one cause but not the sole cause. I believe that uræmic poisoning may and does produce convulsions whether dependent or not on the puerperal condition.

My friend Hyatt, has formed a beautiful theory of transmitted irritability from the enlarged ganglia issuing from the sacral foramina, that may destroy the equilibrium of the vaso-motor nerves of the kidneys—relaxing its blood-vessels and permitting the elimination of the albumen from the blood. But should this irritability be transmitted to the brain, eclampsia would also ensue. I do not see why mere physiological enlargement of nervous ganglia dependent on

the increased demands of a physiological process can be counted a condition of irritability. According to Robert Lee this ganglionic enlargement is a constant accompaniment of pregnancy.

Traube has a theory dependent on anæmia of the brain, dependent on gain on an increased amount of serum in the blood and arterial tension. He speaks as though it was a settled fact that as soon as this anæmia extends from the hemispheres to the mesocephalon, convulsions set in preceded by coma. But if this were so, how is it that agents that are most efficient in controlling convulsions are such as are considered most efficient in producing cerebral anæmia—such as venesection and chloroform. Frankenhansen has discovered that the nerves of the uterus and kidneys are much more intimately connected than has heretofore been supposed. Drs. Fordyce Barker and Braxton Hicks look for an explanation of eclampsia in this discovery. I do not see how much light can come from this source. If there is any significance in this fact its meaning is that, if the nervous connection between the uterus and the kidneys is very intimate, being supplied by the same plexus, therefore the sympathy between them should be stronger, and when one becomes diseased we may expect disease in the other—disturbance taking place in one should be followed by disturbance in the other. Now is this the case? Do we find a coincidence of disturbance in these organs? By no means. What physician proceeds to hunt for disease in the one, because he has found disturbance in the other? This is a fine spun suggestion of Frankenhansen, from which very little fruit may be expected.

Is a condition of actual disease in the kidney necessary to the elimination through it of albumen? Braxton Hicks and Fordyce Barker think it may turn out that some subtle substance floating through the circulation makes a simultaneous impression on the brain and the kidneys, producing eclampsia and nephritis. They are brought to this conclusion by the fact that when the urine may have been perfectly free from albumen, it will be found laden with it immediately after a convulsion. I think it will be found that pressure producing functional disturbance will be amply sufficient to cause an infiltration of albumen and a retention of urea in the blood. It would require more time than I am willing to consume to go at length into the many explanations of eclampsia, especially

as I think they can be accounted for on account of pressure and arterial and venous interference acting mechanically.

To recur to my two cases which I have spoken of as typical, I will repeat that I think they depended for their cause on the same thing acting in an essentially different manner. I ascribe both to mechanical pressure. In the first case, nothing saved the patient except the evacuation of blood, relieving the arterial tension and venous congestion. In the second, nothing but premature delivery. In the first case bleeding removed the cerebral congestion. In the second premature delivery relieved the oppressed kidney.

Formerly it was supposed that the normal amount of blood circulating through the cerebrum could not be augmented—that its unyielding bony structure was a complete barrier to any addition to its contents. This view is now discarded. The human heart is a powerful mechanical contrivance that sends with great energy its contents through the minutest capillaries to the most distant points. While the bony structure does not yield, these capillaries can be, and are frequently distended by the propelling *vis a tergo*, which is manifestly variable. It may be so feeble that fainting and prostration may ensue, and the blood measurably desert the capillaries. It may send such a rushing current as shall tear asunder the coats of the arterial passages. It may fall short of this and simply distend them beyond their ordinary limits. This distension may be kept up by some obstruction or by this continued force in the rear—in either case resulting in congestion. That this congestion does exist is proved by the injected condition of the arterioles in the back chamber of the eye as shown by the ophthalmoscope. Nay, more, I am not sure but that it can be measured by the cunningly devised mechanical contrivances of the present day. Now, from this cerebral tension, from either of the above causes, one form of puerperal convulsions is developed. Why should this result oftener in the puerperal condition than otherwise? Because extra demands imply extra efforts; and the double tax being layed upon the impregnated woman, of meeting the demands of the fœtus in utero, as well as her own, her nutritive functions are correspondingly increased. Her appetite is improved—her digestion is increased, more and richer blood is formed and her whole system is toned up to a higher key. Her heart beats with more rhythmic power and her venous

system is fuller. Now, if the human machine was perfect, an exact equilibrium would always be preserved, and our "craft would be endangered if not actually set at naught." But as it is, with its present imperfections, now and then, it may be from a simple excess of these energies, it may be from the mechanical pressure of the growing fœtus upon the great viscera and circulating system, cerebral congestion results, culminating in puerperal convulsions. The how or wherefore of this effect is as unnecessary to inquire into, as it would be to anquire why a blow on the head may produce similar results. Any means which can cause pressure on the brain may eventuate in convulsions, whether it be excessive cardiac energy or mechanical obstruction as in the case of embolism.

The first case quoted above I take to have been one of cerebral congestion—the treatment pursued confirmed this view.

Now as mechanical pressure upon the great viscera and blood vessels may produce cerebral congestion, in the same manner pressure may cause albuminuria. Functional interference inevitably leads to diseased action and organic change. This is one of the laws of the vital economy. In this way and on this principle changes are wrought in the kidney, in which the albumen of the blood is drained away and the urea is retained. In regard to the deleterious effect of this urea, which you all know is an excrementitious product of the body, there seems to be but little difference of opinion. Its action may be two fold. It may directly poison the blood and indirectly the brain or it may produce cerebral congestion by paralyzing the function of the kidney.

This condition of the kidney tends to general œdema, which follows serous congestion of the brain, and furnishes another form of puerperal convulsions, traceable to the same cause.

Therefore we may have cerebral congestions the result of plethora, also the result of serous distension—the one the result of excessive nutritive activity and the other of mechanical pressure interfering with the proper return of the blood, and also a combination of both and each competent to produce puerperal convulsions; and we may also have them from the poisonous influence of urea floating in the blood from impaired renal function, which is, however, generally accompanied by more or less œdema : hence the difficulty of deciding whether the convulsions are dependent in such cases upon the

serous distension within the brain, or the poison of urea. But in a practical point of view it matters but little as the treatment which would relieve one would be successful in the other.

Now, if these pathological facts are facts, they possess a therapeutic value of great importance, and, therefore, readily suggest the proper remedies.

In cases like the first one mentioned, the lancet, in my judgment, is still indispensable. It takes off the arterial tension; it removes the cerebral pressure and gives a mechanical relief—not only to the brain, but to the kidney and lungs, by diminishing the circulating medium, which may of itself be sufficient to save the patient. Next in importance is chloroform, which is now considered to diminish the cerebral congestion—either by weakening the force of the heart or by a general relaxation—furnishing a free diversion of the blood to all parts of the system, and especially the surface, thereby diminishing the actual quantity in the cerebrum. I once kept a case under chloroform twelve hours, and never doubted to this day that the chloroform saved her life. Since its introduction the death rate in eclampsia has diminished 50 per cent. In cases like the above, morphia is of doubtful propriety—though sustained after bleeding, by high authority—doubtless an excellent remedy when bleeding has been carried to an extreme. Chloral in such cases is better.

In cases of which my second is a type, the above treatment is to be pursued, modified by circumstances. In such cases purgatives and diuretics are of more value.

The kidneys must be aroused from their dormant condition. Cups to the back or opposite the kidneys may be applied. Digitalis and potash salts may be tried, as well as drastic purgatives that produce watery discharges. But generally, or very often there is no safety without removal of the renal interference, by expulsion of the uterine contents. In the last resort, and it must not be postponed too late, the membranes should be ruptured, or the os dilated and labor brought on. This will generally save the patient unless the kidney has suffered some irreparable injury or Bright's disease has previously existed.

I have thought it unnecessary to be very minute or very detailed before a body of medical men—all of whom are well acquainted

with the fearful malady. I will add that the suggestions of Drs. Hyatt and Bahuson are well worth heeding. Of course, they both require further confirmation.

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### A CASE OF OVARIOTOMY.

By L. L. STATON, M. D., Tarborough, N. C.

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The case I present to-day for your consideration was a young lady eighteen years of age, good family history; had her first trouble in menstruation at the age of fourteen, but did not pay much attention to it, as it caused little or no inconvenience. About eighteen months after the established catamenia, she had what she thought to be the mumps, and at the monthly period following, had considerable trouble; much abdominal pain with tenderness, and was unable to quit her bed for several days.

A few months afterwards, her family physician gave it as his opinion, that her trouble was ovarian. Not growing any better under treatment, she consulted almost every physician within her reach, getting almost as many different diagnoses.

The above is the general history of the case as given me at the time she first consulted me (March, 1878), by the young lady and her mother. Upon examination, a tumor of considerable size was found in the abdominal cavity. I diagnosed the growth as a multilocular ovarian tumor, and operative interference then advised. This, however, the mother positively declined to permit.

I then explained to them the course the case would probable take, and the different treatments that had been proposed and practised with more or less satisfaction, telling them if they were willing to incur the expense and risk, I would give her the benefit of them all. I placed her upon tonics and nutritious diet, and requested her to report again soon.

Heard nothing from her until June, when I received a message to go in haste as the young lady was thought to be dying. I found her condition much worse than when I saw her in March; her pulse was small and irregular, varying from 100 to 120 per

minute, respiration hurried and superficial, arterial tension very much decreased, as evidenced by the small quantity of urine voided; venous congestion well marked.

She now begged to be relieved in any way, saying she preferred death to the present condition. Not being ready or prepared for such a grave operation as ovariectomy, and knowing but one other way by which I could relieve my patient immediately, I at once resorted to that, so I performed paracentesis abdominis and drew off six gallons of fluid from the major cyst, presenting the characteristic appearance of ovarian dropsy.

This, as expected, afforded temporary relief. I prescribed for her iodized cod liver oil, which improved her general health very much, so much so that she was now able to visit around through the neighborhood and would frequently present herself at my office, a distance of twelve miles. She now grew more hopeful and was very cheerful, more so than she had been since her trouble began.

I now impressed it upon her again, the importance of having the operation performed, advising her to go to the Woman's Hospital, New York. At her request I gave her Thomas and Atthill upon Ovarian Tumors to read, so that should she consent to the operation she would know exactly what to expect.

Upon my return home last fall she again consulted me, saying that she had read the medical work and had made up her mind fully to have the operation performed and wished me to perform it.

I first declined and insisted upon taking her to New York. She declined to leave home and insisted upon my undertaking the operation, saying that if she could remain at home she would recover, but if she had to leave she was sure of dying. I explained to her the gravity of the operation, and told her if she was willing to be my first case I would undertake to do my duty. She freely consented and expressed herself as being perfectly satisfied.

I now proceeded to get her in the very best possible physical condition for the operation; gave some quinia, strychnia and aloin in conjunction with the cod liver oil, and directed that she take all the exercise possible.

After considerable study and thought upon the subject, I deemed it necessary and my duty as a professional man to give the young lady the only remaining show of life, though her condition was anything but promising for a successful operation.

Making all the necessary arrangements possible, upon the third day of February, 1879, in consultation with Drs. Williams, Baker and Knight, having administered the ether I proceeded to operate under the Lister spray, making my first incision along the median line in extent about three inches. Everything went on well until the peritoneum was divided, when I found some little difficulty in determining if there were any adhesion anteriorly. After satisfying myself that there were none, I then made the major cyst fast to the abdominal opening and introduced a very large canula and proceeded to pump the fluid through it. This was easily accomplished but upon puncturing the minor cyst I found the fluid too thick and tenacious to even pass through a Davidson No. 2 syringe.

I now made free incisions into the smaller cyst through the major cyst and emptied them quite easily by turning the patient upon her right side. After having withdrawn the larger portion of the fluid, the entire mass passed with difficulty through the abdominal incision upon gentle traction.

The tumor sprang from the right ovary; the left was perfectly healthy.

The pedicle was quite a lengthy and broad one  $2\frac{1}{2}$  to 3 inches. I secured it firmly with Thomas' clamps and separated it at the base of the tumor. There being no escape of fluid or blood and no adhesions I did not deem it prudent nor necessary to sponge out the peritoneal cavity. The incision was then closed by strong deep ~~wire~~ sutures with superficial silk ones. The entire time consumed from the beginning of the ether administration until the patient was placed in bed was fifty-five minutes.

The patient recovered nicely from the effects of the anæsthesia. No nausea followed, small quantities of chicken tea given at short intervals. Pulse 125, thermometer  $98^{\circ}$ .

At 10 o'clock, P. M., nine hours after the operation. Patient perfectly comfortable, no pain or soreness complained of.

February 4. Passed a good night, slept well, taken during the night half pint of milk and a teacupful of beef tea. Temperature  $99^{\circ}$ , pulse 108. Gave  $\frac{1}{2}$  grain morphia to relieve pain.

February 5. Condition as of yesterday. No increase of temperature. Urine in the twenty-four rather scanty. No albumen, but urates in abundance.



February 6. Slept well during the night, but complained of pain around the abdominal wound; removed the carbolized lint dressing and washed the wound with carbolized warm water and reëplied the lint. Gave one grain pul. opii. She does not desire food nor is it repulsive to her. Pulse 108. Temperature 100°.

Feb. 6, 1 P. M. She commenced coughing, become very nervous and excitable. Pulse run up to 135. Gave  $2\frac{1}{2}$  grains opium.

Feb. 7. Has had bad night, troubled much with the cough and complains of pain and soreness in the abdomen. Continued opium and used the steam atomizer which had the happy effect of controlling the cough. Went to sleep at 3 o'clock and slept soundly for five hours. On awaking she felt refreshed and expressed herself as feeling much better.

Pulse 115. Temperature 101°. The air passages filled with mucus. Respiration 25, but no dullness upon percussion. Urine more abundant.

Feb. 8. Feels much better; is bright and very hopeful. Sleeps without much difficulty in breathing. Same treatment continued. Pulse 108. Temperature 100°.

Feb. 9. Dyspnoea and pain in the sides; is quite nervous and restless, wants to sit up. Tenderness over the abdomen more marked. Pulse 125. Temperature 105°. Gave two grains opium and 10 grains quinia. Could not account for the change. Late in the evening I found that she had begun to menstruate.

Feb. 10. Has had a very good night. Slept well and has taken one quart of milk with several cups of tea within the last 24 hours. Temperature 97°. Pulse 89. Complains of a little roaring in the head. Can move herself in bed without pain. Expectoates freely. The weather has now changed; it is first fair day since the operation.

Feb. 11. Doing well. Temperature 98°. Pulse less than 100. Now seems to relish what she eats or drinks.

Feb. 12. Condition as on yesterday.

Feb. 13. Still improving.

Feb. 14. Doing well. Improving.

Feb. 15. Improving.

Feb. 16. Tronbled a little in her sleep. Complained of feeling a little nauseated upon awaking, but it soon passed off. Has taken plenty of nourishment during the morning.

Feb. 16, 6 P. M. Bowels begin to trouble her considerably. Moved them freely by enemias. Was called up to see her during the night and found her skin cold and damp. Pulse 135 and very weak. In consultation with Dr. Williams it was thought she had septicaemia, and would die and that very soon if something was not done to relieve her. We soon established a drainage through Douglas cul de sac, and washed out the peritoneal cavity after Peaslee's method. She came very near sinking under the operation, but soon rallied, became conscious and expressed herself as sure of recovery. Twenty-four hours afterwards similar symptoms presented as had the evening before. I again washed out the abdominal cavity as on the previous occasion, but she gradually sank and died about twelve hours afterwards, perfectly conscious and talked up to a few hours before death.

Gentlemen, the above is the case as taken from my notebook, and as nearly correct as possible, for I was very particular and made it a point upon every examination to take full notes upon all the symptoms as they are presented. If I have done anything that should not have been done, I want you to speak of it—for it is my object in presenting the case to draw out the fullest discussions and the severest criticism.

There are numerous points to my mind that are not satisfactorily settled, and you, gentlemen, will never be able to realize the difficulties met with until you are placed in a similar position. Now, if I am correct in the cause of the death of my patient, it must have been caused from the sloughing of the distal portion of the pedicle for there was no other source for the putrid matter to have originated. It was universally believed up to a late period, and is now a matter of extensive belief that sloughing of the distal portion of the ligatured pedicle must ensue. It is true I used no ligatures; but could not the clamps have acted in a similar way. I was very particular in mummifying the distal end of the pedicle.

Gentlemen, I would like to have an expression upon the following points:

1st. Has a general practitioner of medicine, whose practice and experience is as limited as ours are necessarily compelled to be, justifiable in undertaking such a grave and serious operation as ovariectomy?

2d. Was the operation performed in accordance with the latest science, and the after treatment the proper one?

3d. What was the cause of death?

4th. Is it not very uncommon for cases operated upon to die so late after the operation?

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“A CASE OF OPIUM POISONING (?).”\*

By a MEDICAL STUDENT.

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There is no pharmaceutical preparation of which I am more afraid than atropia and certainly there is none which, both from its minute dose and its great potency for ill, requires more care in its administration. Often, indeed, in reading a report of “a fatal case of poisoning by opium,” does the painful question force itself upon my mind, “Did the opium cause the death or was it the effect of the atropia given as its antidote?” Certainly never did the question appear to arise with more pertinency than when reading the article in your April number (p. 228) headed “A Case of Opium Poisoning (?).” Did the patient in this case die from opium narcosis, or was it an instance of poisoning by atropia?

In their physiological action the two drugs are almost diametrically opposed; but scarcely less opposite in their action are they, than was the condition of the patient while laboring under the effects of the morphia alone and after the taking of the atropine. But first let us consider the physiological action of the two drugs in poisonous doses. When a lethal dose of an opiate has been taken, profound narcosis quickly supervenes; the respirations become slow, irregular and interrupted, and may be either quiet or stertorous; pulse either slow and feeble, or fast and feeble; from the primary stimulation of the heart the face is at first flushed but soon becomes pale and cyanosed; the skin is cold and oftentimes bathed in a profuse perspiration; the pupils are contracted; all reflex movement is lost, and death results from paralysis of the muscles of res-

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\*This communication was intended for the May number, but was unavoidably delayed.

piration. When a poisonous dose of belladonna or the alkaloid atropia has been taken how different the symptoms! In this case the effect on the brain is characterized by a busy delirium and convulsions may occur; the respirations are increased in frequency, the pulse-rate usually at first slightly retarded, but quickly follows an increase in the *number* of pulsations; from the primary vaso-motor stimulation and consequent contraction of the arterioles the face is at first pallid, but there soon supervenes vaso-motor paresis and the arterioles dilating, the skin assumes a bright scarlet flush; instead of a cold surface, atropia produces an elevation of temperature; the pupils are dilated; reflex movements are maintained, and according to many observers, even rendered more active, and death results from paralysis of the heart. Opium and belladonna administered in combination, says Bartholow, "produce profound sopor."

Now, then, understanding the action of the two drugs, let us consider the case in question. For the relief of convulsions  $\frac{1}{2}$  grain morphia, hydrochlorate was administered hypodermically; at 9 A. M., the physician at once leaving his patient. She soon sank into a deep sleep, with stertorous breathing, and all efforts to rouse her failed. At 12 M. the doctor was again called in and finds the woman in the following condition: "There was total insensibility except a slight twitching of the eyelids when the conjunctiva was touched. The pupils were contracted to the size of a pin's head. Respiration was shallow, irregular, and interrupted, and numbered ten to twelve per minute. The extremities were cool and the face somewhat cyanosed. The pulse beat regularly though feebly 110 per minute."

Evidently, here we have symptoms of opium poisoning; but the medical attendant contents himself with an effort to "keep up the circulation, by friction of the extremities."

At 3 P. M., the condition of the patient was unchanged except "that the extremities were more difficult to keep warm. The temperature in the axilla was  $97.4^{\circ}$  F." One-twentieth grain sulph. atropia was now injected under the skin of the forearm and during the next hour a moderately strong galvano-faradic current was used with the effect of slight amelioration of the symptoms. So far, very good.

At 4 P. M. one-twelfth grain of atropia was injected and electricity continued.

At 5 P. M., “circulation appeared to be failing, the pulse being decidedly weaker and the extremities cold. Respiration was about 15 per minute. \* \* \* \* \* The pupils were still obstinately contracted.” Note now, that though the pupils are still contracted, the effect of the atropine has become manifest. *Respiration has increased from 10 or 12 to 15 per minute.* The doctor now injects one-sixth grain atropia, uses hot applications to the extremities, and continues the electricity at intervals.

At 6 P. M. the temperature of the body was 100°. The pulse at the wrist could only be irregularly felt and the heart contracted feebly but regularly 115 per minute. The respiration was now 18 to 20 per minute. The pupil was unchanged, but the conjunctiva had now become *absolutely insensible*. Certainly, though the pupils was still contracted, the action of the atropine was, in all other respects, fully manifest in the increased temperature, the more rapid heart, and the number of the respirations, while the fact that the conjunctiva had now become absolutely insensible, gives us some ground for thinking the morphia and atropia combined had produced a more “profound sopor.”

But alas, the nimia diligentia medendi ! It seems that the good doctor could only see the pupils of his patient's eye. Should he not now have used other stimulants to strengthen this rapid and failing heart ; digitaline, which diminishes the frequency and increases the force of the heart's action, ammonia or even brandy, or should he not have *disregarded the insensibility and contracted pupils* and been content to let his syringe rest ?

But instead, he now injects  $\frac{1}{4}$  grain of atropia. “In twenty minutes the effect of this dose was perceptible. The pupils were widely dilated, and respiration increased to 30 per minute ; but alas the heart although it contracted 130 to 140 per minute failed to convey the slightest impulse to the wrist. Cyanosis had disappeared but the insensibility continued.” Nothing could be more apparent now than the effect of the counter-poison.

“At midnight a slight convulsion occurred. \* \* \* Gradually there was an increase in the rate both of circulation and respiration, until at 4 A. M., the heart beat 150 and the breathing was

36 per minute. \* \* \* \* The heart's contraction was steadily becoming more feeble and imperfect. The pupils were still widely dilated, the extremities warm and the temperature 101°. Fifteen minutes later the heart ceased to beat and death supervened without a struggle."

Now, can there be any question that this was not a case of death from opium poisoning? Had it been, there would certainly have been, as before shown, contracted pupils; slow and irregular breathing; pale and cyanosed face; cold and clammy extremities and death from failure of respiration.

Such, however, was not the case, but on the other hand, the "slight convulsion;" the widely dilated pupils; the very hurried breathing; the rapidity of the heart's action; the flushed face; the increased temperature all speak too plainly of the poisonous action of atropia, and the feeble and rapid heart goaded until it could do no more, became paralyzed as a result of over-stimulation of its vaso-motor ganglia. The only symptom wanting is the busy delirium, and when we remember the combined action of opium and belladonna is to "produce profound sopor," I think there is no room left for the question "was this a case of opium poisoning?" The writer asks the question: "Did I give too much atropia?" The symptoms reply in the affirmative, and certainly he gave a larger dose of atropine than I can find anywhere recorded, as a *counter-poison*.

Two cases of opium poisoning have been published by Dr. Wardner, of Illinois, (*Chicago Medical Examiner* Feb. 15, 1874). In the first, 8 grs. of morphia had been taken and 1-5th grain of atropia was found sufficient to antagonize the poison; in the second, 7 grs of morphia had been taken and all evil symptoms were relieved by 1-8th grain of atropia.

True, Dr. Fothergill, as the writer quotes, gave one grain of atropia at a single dose (*Antagonism of Medicines* p. 133), but in this case the patient had taken from 12 to 17 grains of opium or from 2 to 2 5-6th grs. of morphia, "the respiration was failing and was almost gone," and we must not forget to notice that, though the dose was large, it was only  $\frac{1}{8}$  to  $\frac{1}{2}$  as large as the dose of the poison it was given to counteract.

In the case in question, however, only  $\frac{1}{2}$  grain of morphia had

been taken, and the doctor, to antagonize it, gave *more* than a  $\frac{1}{2}$  grain of atropia. When we remember, then, the comparative strength of the two drugs, how much more powerful in action is atropia than opium or morphia, and how much more permanent are the effects of the atropine, can there be any question that its action did predominate and need we be surprised at the result?

And now, in conclusion, I would say, that this crude paper has not been written in the spirit of unfriendly criticism of the author of the paper questioned,—for most truly, I have no knowledge of who that author may be,—but its purpose is to elicit discussion, if possible, that authority may give us some safe rules for our guidance in the administration of *counter-poisons*. Certainly in avoiding one evil great circumspection is necessary lest we fall into a greater. We cannot too well remember that, in giving atropia the pupils are not always a safe guide to the extent of its administration.

The editor of the *Philadelphia Medical Times* (November, 1873) in a review of an article on opium poisoning treated by atropia says: "We cannot help believing that often a good deal of firmness is required in these cases not to use it too freely, especially since reliance is generally placed upon the pupils as a guide. They are, however, a very unsafe guide, as is apparent when it is remembered that whilst opium contracts them by influencing the nerve centres, atropia probably dilates them by acting on the peripheral nerves."

Nor can we keep too well in our minds the caution of Bartholow, which is: "It cannot be too strongly insisted on in this connection that belladonna in too great quantity, or too long in action, exhausts the irritability of the unstriped muscular fibre, and thus induces the very state which its administration was intended to relieve."

*Fatal Toad-Poisoning.*—The *London Medical Record* mentions the case of a lad who followed a toad on a hot summer's day throwing stones at it. The enraged animal spouted some moisture in his eye. The boy died several days after, in a state of noisy mania.

## CLINICAL REPORTS.

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### A REMARKABLE CASE.

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By J. A. REAGAN, M. D., Weaverville, N. C.

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In January, 1864, S. F. Young, a Confederate soldier, was wounded and taken prisoner. His recollections of what occurred, and how he was treated for some time after he was wounded, is very imperfect. He thinks, however, that the surgeon who attended him, removed some pieces of his clothing which had been driven into the wound, but could find nothing else. His case was regarded as hopeless, but improving some he was finally exchanged about the close of the war. He returned home. The wound never healed; but continued to suppurate, which made a constant drain on his system, until he was reduced from a stout, athletic man, to a mere skeleton. Being satisfied that some foreign substance was still in the wound, he called in, at different times, several physicians. And at one time, about 1870, there was held a consultation on his case, when it was determined to operate. After one or two incisions were made, further efforts to complete the operation were abandoned, as it was thought impossible to complete it with success.

In the fall of 1877, nearly fourteen years from the time he received the wound, he sent for me—about forty miles from where he lives.

I found him very feeble, not able to sit up, the wound still suppurating.

On examination I found that the missile had struck him, evidently while he was lying down, as about one inch of the two lower ribs, on his right side, were cut smoothly away, leaving a space in which I could lay one finger between the ends from which the pieces were taken. As the suppuration was from the pelvic region, I knew that whatever of foreign matter there was must be somewhere in the pelvis. Starting my probe in at the point from which the pus exuded—just above the middle of the crest of the ilium, I could probe about three inches down on the internal surface of that bone.

He refused to take any kind of anæsthetic, hence the operation had to be performed with him fully awake. I made an incision



along the inner edge of the crest of the ilium about three inches in length, and searching down I found the two pieces of missing ribs, apparently just as they had been driven there, nearly fourteen years before.

I removed them and could probe no further. Hoping that these were the only sources of distress, I closed the wound in the usual way, leaving an opening for the escape of pus.

Finding from the soreness and fluctuation low down, that pus had burrowed much lower than that place from which I had removed the bones. I attempted to make an examination per rectum, but it caused him so much pain that I had to desist.

I told him that I feared another operation would be necessary as he was so very tender about the rectum ; but that I would place him on quinine and iron for a time with good nourishing diet, with the hope that he would gain some strength. He gained but little owing to the great and continual drain on his system from the constant flow of pus, which he assured me had been not less than a gill every day from the time it first began. I then thought it best to operate from below. So I made an incision two and one half inches long, just to the inner side of the tuberosity of the ischium, and pus was very freely discharged. I explored the cavity with my finger but could reach no foreign substance. I now determined to wash out the cavity from the opening above, which had not entirely closed up. I entered the tube of a Davidson syringe in the unhealed part of the first opening—using blood warm water. I first made gentle pressure on the bulb but the water failed to pass out at the lower incision. Then I increased the pressure, and I discovered that something gave way and the water poured out at the opening below. I then used carbolized water and washed out the whole cavity again, when the ball—for it proved to be a minnie-ball—descended and was shortly removed. The wound now healed kindly, and the man is restored to perfect health. In this case there are several things remarkable and of great interest.

1st. That a minnie-ball should cut three ribs off as smoothly, apparently, as if done with a saw.

2d. That these pieces of ribs should be driven down some six inches along the side of the peritoneum without breaking through into the cavity.

3d. That they should remain, for nearly fourteen years, in that position without dissolving, working out, or entering the pelvic cavity.

4th. That this same minnie-ball could be able to pass from the eleventh rib between the arms and tuberosity of the ischium without disturbing, materially the nerves and blood vessels of the pelvis.

I give this case as far as it came under my observation, and leave it to the profession to explain these apparent impossibilities to their own satisfaction. I believe, myself, that the ball was turned by some cause, before it struck Mr. Y., and that it entered hollow-end before, which may explain the cutting off of the ribs and driving them down. It must have been his position, in some way, that prevented the ball and pieces of ribs from entering the cavity of the pelvis.

Of the other two I am not well satisfied and will not attempt to explain the why and wherefore. Taking this case as it is, I regard it as the most interesting that I have ever seen or read of in some particulars. I have examined the surgical history of our late war, the surgical histories of the French and English wars, but can find no parallel case.

Perhaps the surgeon who treated Mr. Young's case, after he was captured, could give us some light in regard to his condition, and treatment in the early part of his affliction. If he is still living, Mr. Y. does not remember the surgeon's name.

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### ERGOT IN HÆMOPTYSIS.

By E. H. HORNADAY, M. D., Willow Greene County, N. C.

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On the the 26th day of December, 1878, I was called to see Mrs. B., living about two miles from my place. Mrs. B., aged 44, married 19 years, mother of eight children, blonde, rather tall, usual weight when well 115 lbs, with a narrow chest. She had been troubled at times with cough for the past ten years, but the cough

was attributed to inflammation of the mucous membrane of the bronchial tubes. She had at the time of my first visit lost much flesh, her pulse was 115. She had severe cough, purulent expectoration, chills, night sweats, the hectic flush, and in the language of that great and good man, Prof. G. S. Bedford, she presented the entire cortege of symptoms of that most fearful and rebellious malady—consumption; and on physical examination I made that diagnosis of her case, and commenced treatment accordingly.

On the 26th day of January past, I called in consultation my esteemed friend and compeer, Dr. Frank Rountree, of Hookerton, who endorsed my diagnosis and treatment in her case. At that time the greater part of the superior lobe of the right lung was consolidated, and coarse, moist sounds were abundant in this region, and a well marked cavity of the left lung found.

On the night of March 15th last, I was hurriedly called to see Mrs. B., with the information from messenger that she was bleeding to death from the lungs.

On arrival, I found the patient pale, and almost pulseless from pulmonary hemorrhage. I at once administered fld. ext. ergot gtts. xl, per orem, every thirty minutes until hemorrhage subsided, which it did in less than forty minutes. The ergot, per orem, treatment of hæmoptysis is the teaching of Dr. Jas. M. Williamson (*Lancet*, Nov. 13th, 1875).

The treatment adopted in Mrs. B.'s case was cod liver oil and whiskey; steam atomization of carbolate of tar, night and morning, and atropia and morphia as follows:  $\mathcal{R}$ . Atropiæ sulph. gr. j. ; Morphiæ sulph., gr. viij. ; Acid sulph. dil. f. 3j. ; Aquæ f. 3vij. M. Sig.—Five to ten drops in water three times a day. When the vision was much disturbed, the dose was reduced. She commenced to improve about the first of April which was marked and rapid, and now July 2d, her cough has ceased. She has no fever nor sweats; her appetite is good, and she weighs more, looks better than she has before in ten years, can walk two or three miles without fatigue or trouble. In fact she is free from her pulmonary trouble, and I think, rest produced by atropia combined with morphia was the sine qua non in her case.

My object in reporting this case is to call the attention of the profession to an exhaustive article in the April number, 1879, of

the *American Journal of the Medical Sciences*, on the Treatment of Certain Forms of Phthisis Pulmonalis by Rest and the Internal Administration of Atropia, by Roberts Bartholow, M. A., M. D., then Professor of the Theory and Practice of Medicine in the Medical College of Ohio, but now elected to the Professorship of Materia Medica in the Jefferson Medical College of Philadelphia.

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### POISONOUS TOAD-STOOLS.

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Mr. Julius Palmer, Jr., of Boston, in an article on "*Toad-Stool Eating*" in the *Boston Medical and Surgical Journal*, August 28, gives the following practical hints for the avoidance of certain dangerous mushrooms. The reference is to *agarics*—umbrella mushrooms, with gills. "The stem of this dangerous class has a wrapper incasing the base of the stem, more or less closely. The stem has usually a collar or ring around it about two-thirds of its length from the ground. The gills, as well as stem, are always pure white. The top of the cap is variable in color, according to the specific member of the genus. The most common variety has a yellow spot in the centre of the disk shaded off to pure white at the edge. There are also varieties with red, golden, drab, greenish and pure white skin for the top of the umbrella. But all have warts or scurf on their skin, which easily rubs off. By noticing these three marks, *wrapper* at the base, *collar* on stem, and *scurfy* top, persons may avoid the most venomous family of mushrooms."

Pink-gills among the agarics can almost always be found where other mushrooms abound, and once recognized can easily be identified afterwards, and these will always furnish the lover of mushrooms a good dish. Of course it is safer to plant "spawn" sold by seedsmen than to venture upon too little knowledge of the botany of these difficult plants.

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Dr. W. A Hammond has been restored, by findings of court and final signature of the President, to the rank of Surgeon-General without back or future pay.

## SELECTED PAPERS.

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### ADDRESS IN SURGERY ON THE PREVENTION OF BLOOD-POISONING IN THE PRACTICE OF SURGERY.

By WM. S. SAVORY, M. D., F. R. C. S., F. R. S.,

Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

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When honored by the invitation of your Council to give this year the Address in Surgery, I had to consider on what subject I might venture to speak to you. I could not help regretting that one had not been chosen for me; I was embarrassed by the range of choice. Working as I am at surgery in general, there is no particular subject on which I am entitled to speak with special authority; with any authority indeed beyond, or even equal to, that many of those whom I address can claim. But then, on reflection, I could not doubt that if the members of this Association had been called on to select a subject for this address, the majority at least would have chosen that which is, I think, not only in itself the first and largest in surgery, but also the one which of late years has occupied the attention of most surgeons far more than any other, and concerning which the most opposite opinions are entertained by those who have the fullest opportunity of studying it.

Need I say that I refer to the subject of blood-poisoning and its prevention? I think I am speaking advisedly when I call it the largest and the first; for it is not only an evil spread over the whole field of surgery—in what class of cases is its deadly presence unknown?—but it is, if not the sole one, almost beyond comparison the chief evil which waits upon the surgeon's own work. It seeks its quarry not only in disease and accident, though here might be found scope enough for its power of destruction; but it hovers over every operation, and by its fell swoop can destroy the best work and fairest promise of the surgeon. Yes; truly it has been the scourge of surgery. Is it so still? Would I could say altogether it was a thing of the past—of history only; that we are now able to cast it out. No; I cannot state this. When will some successor of mine in this honorable but responsible position be able fairly to affirm so much? But this I may say, that of late a vast amount of

the best work has been done in this direction ; of work so worthy, that if the demon has not been altogether exorcised in its power of mischief, it has been so trodden under foot that now, when it moves among us, we are startled as by some strange thing. Let those who think my language overcharged look at the records of surgery in the last generation only, and in this will see somewhat of the good which has been wrought—but a fraction of it ; for it is only in our own time that anything like an accurate record has been kept of the number of lives thus destroyed. How many lives were so sacrificed in former times, no one can tell ; for the nature of the mischief being then unknown, its fatal work was set down to to the account of various other causes. It is only in time within the reach of many of us that its presence came to be recognized with sufficient distinction to have a name. And surgeons, you know, are not slow to find names for new things, whether real and actual, or mere imaginings. Yes, surely the chief triumph of this era of surgery is the successful war it has waged with blood-poisoning in all its various forms.

#### THE TERM BLOOD-POISONING.

To avoid risk of confusion, let us consider for a moment what is to be understood by the term blood-poisoning. I shall employ it in its comprehensive sense to express the sum of the effects produced by the introduction of matter charged by the action of septic poison into the blood. By septic poison, I understand matter capable of producing or promoting putrefaction. This septic matter is thus, of course, separated from all inorganic or vegetable poison commonly so-called, and by its effects, at least, in the economy, from those zymotic poisons which produce such diseases as small-pox, scarlatina, measles, and the like. But I need hardly add that I include in this view not only the affections called pyæmia, septicæmia, ichorrhœmia, and so on, but some others which perhaps would not be so universally accepted to be within the pale, as, for example, erysipelas, certain forms of erythema, boils often, and carbuncle, and some other affections more vague and transient, which perhaps I need not now further particularize, for on this subject I have already spoken elsewhere. Of course, I do not forget that concerning the pathology of erysipelas, for instance, contrary views are still entertained. For my part, I consider it to be

fairly well established that erysipelas is due to some infection of the blood ; that it is the result of some form of blood-poisoning, and very closely allied to the affections called septicaemia and pyaemia. Nor shall I now trouble you with any discussion of the relation of the affections called septicaemia and pyaemia to each other. But, in order to be clear, it is as well to say that I do not think there is any evidence at all sufficient to show that these affections are different in kind or in nature. So far as I can see, they differ only in degree—a degree probably determined, at least chiefly, by the intensity of the poison which operates. I can find no reason for assuming a difference in the nature of the poison itself. For the grounds of this opinion I must refer you to former papers on the subject.

#### THE CAUSE OF BLOOD-POISONING.

The cause, then, of the blood-poisoning of which I speak is the introduction of putrid matter to the blood. I say its introduction, for if it ever originate in the blood itself, such an origin is at present beyond research. We know nothing of it. All that we do know is that it may be introduced from without. The current belief—may I say the established fact?—is, that the agents of putrefaction exist in the form of solid organic particles, some so minute as to be beyond the range of the highest powers of the microscope, which float freely in the air, and are now commonly called germs, and which abound in decomposing organic matter of various kinds, notably—and this is of chief interest to us—in decomposing animal fluids.

Let it be observed, however, in passing, that although the germ theory in its present form is of very modern growth, the belief that the admission of air to recent wounds is in some way injurious is not a new one. It extends at least beyond the era of the introduction of subcutaneous surgery, which is founded on it.

Now, it is necessary for me, in order to avoid being misunderstood in what I have to say hereafter, to state thus much ; but I do not propose to enter further into it, to disturb the vexed questions that arise therefrom. I am considering the subject now only from a clinical point of view. Therefore I turn from any farther inquiry into the more precise nature of these septic particles. In what sense, for instance, they are entitled to be considered alive need not trouble us here, or whether they are more akin to vegetable or ani-

mal life. That they are organic, and possessed at least of the fundamental attributes of living matter, seems proven by their behavior, and by some of the tests that we can apply to them. It is enough for us that they are septic; that they can produce and promote putrefaction: and further, that fluids so changed by them may provoke those terrible effects which are only too well known as blood-poisoning. I speak thus of the fluid which poisons, saying changed by, rather than charged with, bacteria or their germs, according to evidence; but I need not now consider this question. You will remember that it was discussed in a masterly manner last year by Dr. Roberts, in his Address on Medicine. Neither have I now anything to say concerning the particles of matter at present called bacteria. Every one knows how they are prone to abound when putrefaction and kindred changes occur. For the most part, I suppose their presence may be regarded as the signal that such changes are in progress; but the exact relation they hold to such changes is at present with many a vexed question, and it is not necessary now to disturb it.

I have only one further remark to make on this portion of my subject. I have said that we have no knowledge that these mischievous particles ever originate within the blood. We do know that when fluids so changed by them find an entrance from without, they are prone to provoke grave mischief. But we also know that such fluids, potent for the gravest mischief, may be produced within the body, deep among the tissues, far away from any chance of direct communication with the air, and this without previous wound or injury of any kind. Upon the passage of such matter into the circulation, the most fatal form of blood-poisoning may supervene. This significant fact, which is beyond question, has been of late strangely set aside. I would almost say willfully overlooked, in very much of what has been written within the last few years. A fact significant, indeed, in a two-fold sense. But to this I shall presently return.

#### GERM THEORY.

It will be admitted, I trust, even by those who unreservedly accept what is known as the germ theory, that I have not been in any way unfair in what I have thus said on the subject. Some, I know, would not go so far as I have gone, but I am anxious not to



do injustice to this view. But now I turn to another side of this great subject: a side which throughout the discussion has been curiously lost sight of; which, so far as I know, in the vast amount which has been said and written, has been almost entirely ignored. If the germ theory in its past and present state contained the truth, the whole truth, and nothing but the truth, what possible explanation is to be given of that which is witnessed daily and hourly—the kindly repair of exposed wounds? I will venture to say that any one who had no clinical experience, but who accepted all that he could read on the germ theory, would inevitably come to the conclusion that to expose any wound unguarded to the atmosphere would be to seal the fate of the patient. But what is the fact? Who requires to be informed? Then is it not clear that the whole truth has not yet been told? Nay, further still, not only are exposed and unguarded wounds constantly to be seen in healthy process of repair, covered with secretion which presents no evidence of putrefaction, but wounds are sometimes seen bathed in fluid, which, if injected into the blood, would forthwith produce all the effects of blood-poisoning in the most intense degree. And yet further: not only may such fluids be in contact with open wounds without provoking any evidence of mischief, but a collection of the foulest fluid, in a state of considerable pressure; as, for example, in an anal or pharyngeal abscess, or in an abscess around dead bone. I say a collection of matter large enough and poisonous enough to destroy a host of persons, if passed into the blood, may remain thus pent up in the body for a long period without any visible disturbance of the general health. It is obvious, then, that the contact of wounds and raw surfaces with even putrefying fluids is not always enough, for this is seen continually without evil effects. They must be transmitted to the blood. I hardly know what would become of the practice of surgery if this were a matter of course. In point of actual fact—a fact second in importance to none in surgery, but which it is the fashion just now resolutely to ignore—I say, in point of fact it is very far from it. The transmission of such fluids, when they are present, is the exception, not the rule. Now, here again I am content to take the fact itself; and I do not propose to enter, at all events at any length, into any attempt at explanation. I do not think, however, that there we are altogether in the dark. All

wounds, except the most recent, when tolerably healthy, are covered, as we all know very well, by a newly formed delicate structure sometimes called granulation-tissue; sometimes presenting other but kindred forms, but which in any case constitutes a continuous layer interposed between the blood and whatever may be on the surface; and it seems to be pretty clear that this animal membrane has, like similar structures of the class, the property of separation; that it has the power of allowing the transmission of certain substances and of rejecting others, and that upon this simple action of dialysis health and life very often depend. I say this explanation has been made reasonable by observation and experiment; but whether it be wholly or partially true or not, the fact—the vital fact—which it attempts to explain remains. Pause, if only for one moment, to think of it: a fluid all-potent for mischief, intensely poisonous, on the one side, to blood, to which if it gain access follows destruction; on the other, and a very thin, very delicate, most fragile membrane only intervening! Truly enough, to the patient ignorance of this is bliss; and surgeons just now talk, and write, and practise as if it were folly to be wise.

But such terrible transmission is sometimes effected, and there is blood-poisoning. It remains, then, to inquire under what conditions the poison, can gain entrance to the blood. I think the clinical study of this subject impresses us with some striking facts. First of all, that this mischief is least likely to happen in healthy wounds during the process of repair; and that, when it does occur, it is either in a wound unhealthy in character or flagging in its action, or in one so recent, or in which the process of repair has been so delayed, that little or no new and healthy tissue has been produced on the surface. In other words, when the newly formed tissue is healthy and entire, it is tolerably impregnable, and that whatever interferes with its integrity gives the opportunity for mischief. I say the mischief is less likely to happen in proportion as the wound is healthy and repair rapid; but exceptions to this we know occur, and it is reasonable to suppose, in some cases at least it has been almost demonstrated, if in some obscure corner reparative action has not failed, that from some violence, or accidental disturbance, or other cause, the continuity of the new structure has been broken or its integrity somehow impaired, and so the poison has passed in.

And now I hasten anxiously on to prevent the possibility of misapprehension even for a moment. But no one, I trust, could imagine, from what I have been saying, that I am not to the last degree impressed by the mischief which may arise from the presence in wounds of any kind of decomposing fluid; that in the most absolute and thorough cleanliness—not in the common sense only, but in a surgical one also—can a patient be at all secure. I shall return to this; but I shall not be in any way misunderstood here. My present purpose is to insist upon the fact that two conditions at least are required for the mischief of blood-poisoning; and that of late, in the concentration of attention upon the other, one of these has been strangely overlooked. There must be a fluid potent for evil, and there must be a surface ready to transmit it. Obviously, then, the means of preventing mischief, of conducting our patient safely through recovery from wounds and injuries, lies in fulfilling the opposite conditions: in the rigid prevention or exclusion, so far as it is practicable, of all putrefying or decomposing or foul fluid, and in keeping wounds in as healthy a state as possible, in fostering the soundest and most rapid process of repair. If either of these conditions be fulfilled, the patient may escape the mischief we dread; but undoubtedly the duty of the surgeon is, by all means within his power, to secure both. He is below the mark if he can ever be satisfied with less than this.

Furthermore, be it remembered that these two conditions, as the rule, are found in company. The fresh fluid upon the surface of a wound which is healthy and in process of repair is innocuous. No mischief of this kind lurks in fresh healthy pus: and if the fluid which bathes the surface of a wound become foul or putrescent, the character of the wound itself is apt to change, and the integrity of the surface to suffer. Therefore, a healthy wound in process of repair, and a fluid on the surface which is innocuous, as the rule, go together.

Animal fluids exposed in open vessels to the air after sometime become putrid, the length of time varying with the state of the air: and so it is forthwith concluded and argued by many that if fluid upon the surface of a wound be exposed to the air it must while there become putrid too. But the fact is, any one who cares to witness it may see fluid at any time upon the surface of exposed

wounds which is not putrid. And the explanation of this most familiar fact is simple enough : that the fluid in the vessel has been kept until it has become foul, while the fluid upon the surface of a wound in process of repair which is duly watched and properly managed is ever being renewed. The same fluid ought not to be allowed to remain long enough to undergo mischievous change. There is after all some difference between stagnant water and a running stream.

Dr. Roberts, in his memorable address last year, said : " Before we can understand the pathology of septicæmia, we must have clear ideas on the relation of septic bacteria to our bodies. We see in our laboratories that dead animal tissues, when exposed to ordinary air or ordinary water, invariably breed septic organisms ; in other words, contact of septic germs with the dead tissue never fails to produce successful septic inoculation. But this is quite otherwise with the same tissues when alive and forming part of our bodies. You cannot successfully inoculate the healthy tissues with septic bacteria. It has been proved over and over again that these organisms, when separated from the decomposing medium in which they grow, can be injected in quantity into the blood or tissue of a healthy animal, or applied to a sore on its skin, without producing the least effect. The healthy living tissues are an unsuitable soil for them—they cannot grow in it ; or to put it in another way, ordinary septic bacteria are not parasitic on the living tissues."

" This fact," he continues, " is of fundamental importance in the discussion of the pathology of septicæmia. We have a familiar illustration of its truth in the now common practice of subcutaneous injection ; every time you make a subcutaneous injection you inject septic germs into the tissues."

Thus, the surgery of the present day, in this respect is, characterized as antiseptic ; that is to say, since surgeons have duly recognized this great impending evil, they have as their chief aim, striven to avert it. Here, at all events, increase of power has followed closely on the advance of knowledge. One has not, I repeat, to turn far back in our literature before all evidence of any suspicion of what is now known as blood-poisoning disappears. Our knowledge of the fact of even the existence of such an affection is of recent date ; and for several years after the subject first attracted

the attention of surgeons, the comparatively clear and simple view of its pathology which at present prevails was for awhile obscured by theories and doctrines, which drew observation away from the actual cause, to speculation on phlebitis, thrombosis, and other changes which are often associated with it. The history of our present knowledge of blood-poisoning is an interesting and instructive one. At first, all attention being naturally concentrated on the changes wrought in the body, the origin and cause of the affection was sought only within those limits. Then when the truth began to dawn that the actual poison was derived from without, the pendulum of opinion, according to its wont, swung at once to the opposite extreme, and I venture to think that of late the opposite error has prevailed, of regarding only the conditions under which the poison is formed, and losing sight altogether of the conditions under which it affects the blood.

Antiseptic surgery ! Unhappily there is much confusion in the current employment of this phrase. This ought to mean—and with some, but a few only, it does mean—the principle which aims to secure healthy wounds and their repair as speedily as possible (for while they last there is always risk) by the most scrupulous cleanliness—by cleanliness, I repeat, not only in the common, but in the surgical sense, which means the prevention or removal or destruction of all matter which may prove poisonous. This, I take it, is the only adequate conception of antiseptic surgery : and, as thus understood, the term antiseptic ought in fact to become superfluous, being thus simply equivalent to good surgery. Less than this should mean unwholesome practice. But somehow there is a weakness among us for exuberance of this sort. What a run the phrase “conservative surgery” had, for instance, nay, still has in certain quarters, as if surgery itself were worth anything, could have any value, or even deserve its name, if it were not in the truest sense conservative ! The employment of the term “conservative” ought surely to mark an inadequate conception of our art, and I would fain say the same of the word “antiseptic.” If surgery be not antiseptic in the sense I have endeavored to indicate, it must foster most dangerously, by covering with its sanction, the prevalence of mischief. But antiseptic surgery, as more commonly understood, implies the liberal employment in practice of special agents, which

are collectively known as antiseptics; and the number of these—their name is legion—which has been introduced to the profession and the public, and the amount of many of them which is consumed, testify abundantly to the extent of opinion in their favor. But in this sense, again, I suppose all surgeons nowadays practise antiseptic surgery. Perhaps an instance hardly ever occurs now in the treatment of a wound in which an antiseptic of some kind is not in some way employed during its progress; never, perhaps, in what should be called civilized surgery, if we allow—as we should allow—free ablution with clean water, adequately used, to be amongst the simplest, safest, best of antiseptics. And lastly, the term antiseptic is employed, and this most commonly of all, to express a particular method of carrying out the great principle; the method which has attracted, and is still attracting, so large a share of attention. Of course, I allude to that which has been devised by Lister, and which is more precisely termed Lister's plan or method of dressing wounds.

It would be a matter of comparatively little moment in which of these senses the term antiseptic were used if only the present degree of confusion could be avoided; but some mischief arises, I think, when the principle itself is confounded with any special mode of practice.

Now, since some light has been thrown on the nature and cause of this affection, what has surgery done to avert it? Yes, there are grounds for congratulation in this direction. This would surely be the answer given by the general experience of surgeons; and vague and full of fallacy as this necessarily always is, it must, and especially in this case, be allowed to go for very much. And this is the answer given by statistics, which although too often laden with fallacy also, speak, I believe, plainly and conclusively on this point.

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Taking a case—say, of amputation through the thigh, or of excision of the breast—I should treat the wounds in the way following. Having carefully arrested all hæmorrhage, using most probably the carbolized catgut ligature, and having gently removed any particle of blood-clot that may have lodged on the surface, employing only clean water or sponges just rinsed out of it, I

should, without any further interference with the surface of the wound, bring the edges together, adapting these as nicely as possible with silver-wire sutures. I should not in this way attempt to close the wound completely, but I should leave spaces between the sutures, perhaps from one to two inches long. Then, over the course of the wound and for some distance on either side of it, I should place a layer of folded lint which had been previously well soaked in olive or almond oil containing one part in about fifty of carbolic acid. Over this again I should place two or more layers of dry lint, either with or without cotton-wool; so arranging this as, by gentle and equable pressure, to secure, without any violence, as far as practicable, the accurate adaptation of the surfaces of the wound throughout, avoiding thus any considerable cavity in the interior. I should secure all this by strapping or bandage, or both, so adjusting these that they may be hereafter removed with the least disturbance. I should place the patient and the wound in the most comfortable position possible, having especial care to the fact that fluids, as they form, may flow outwards. Thus, for instance, after excision of the breast, I have, for sometime past, placed the patient, not on her back, but on the opposite side, so as to make the inner angle of the wound the most dependent part of it. I am convinced that this assists greatly in promoting speedy and satisfactory repair. It is much better for fluid to escape at the inner than at the outer angle, and this more especially when the axilla has been disturbed by the removal of glands. The cellular tissue is so very much less abundant and less loose towards the sternum, that the chance of infiltration of the fluids is very much less. As a rule, perhaps, I do not disturb this arrangement for forty-eight hours, although very often I change the dressing and inspect the wound after twenty-four. I am guided in this matter of time chiefly by the state of the patient; whether spare or full-bodied; her sense of local and general comfort, freedom from or complaint of pain; and the season or temperature. But whenever I am in doubt, I change the dressings. These, then, are removed with the utmost gentleness, and the state of the wound carefully inspected. Especially is attention directed to whether there is any tendency to the lodgment of fluid; whether that which forms can escape freely; whether there is much tension of the edges. I am bold enough to think that

any surgeon who understands his business can tell, without any painful handling, whether the surfaces of the wound are fairly in contact, or whether there is any tendency to the accumulation of fluid separating them. But if any doubt arise on this important point, a perfectly clean probe or director lightly applied to some portion of the wound will solve it and secure ample vent; if at all necessary, I should not hesitate to remove one or two or more sutures. If the wound presented no other evidence than that of satisfactory repair, I should dress it as before, and proceed in this fashion, dressing and examining it daily or less frequently, according to circumstances. But if at the first dressing, or whenever afterwards the discharge became at all profuse, or the surfaces did not remain in contact, or there was much tension or a blush at the edges, I should forthwith substitute a bread-and-water poultice for the previous dressing, and probably continue to apply this until at least all the deeper portion of the wound had closed. When I dressed the wound, I should wash it probably from the first with tepid water, perhaps containing some permanganate of potash in the form of Condy's fluid or other potent antiseptic of the least irritating kind. I should accomplish this washing out, if I thought fit, of portions or even the whole of the interior by the use of a syringe, avoiding contact of sponges or other substances with the wound. I aim here at the utmost possible cleanliness, having at the same time due regard to the avoidance of any unnecessary disturbance, that the process of repair be not interrupted. And withal I endeavor, by means I need not indicate, to secure for my patient the most complete rest and the purest air.

With regard to the substitution of a poultice or water-dressing, or some other form of application, for the simple dressing used in the first instance, I think one can tell for the most part beforehand if they are likely to be required at all, or early in the management of the wound. In young persons in tolerably good health and spare, most wounds, when not worried, heal very directly. It is in those advanced in life, with flabby textures and much loose fat among them, that wounds give most trouble. These pour out fluid freely and are prone to flag, and while the process of repair is delayed, may fall into mischief in various ways.

Now, I am sure you will allow that this mode of treating wounds



in general which I have thus slightly sketched is characterized by its simplicity and the entire absence of all novelty; my purpose being to interfere in the least degree possible with the work of nature. Some years ago it would not be worth recording; and now perhaps it will excite surprise to find that any plan of treatment with so little in it is still adopted. Allow me yet to trouble you with a few comments.

In the first place, at the time of operation, or immediately afterwards, you see nothing is applied to the wound but water as a rule; no antiseptic of any sort, provided the surface of the wound is healthy. Because I believe that such healthy natural surfaces are in the state best adapted to satisfactory repair; and that, as a rule, in proportion as they are changed by the application of foreign agents, so are the changes which initiate repair, hampered or arrested. I would ask, if it be wise thus to wash the surfaces of recent wounds with antiseptics, why not treat all wounds so—as, for example, in the operation for hare-lip? Antiseptics, at this time especially, are irritants in some degree; and, unless they are very strong, and therefore very irritating, their power to arrest mischief is lost before the period for that mischief has arrived. Therefore, it seems to me, for the employment of antiseptics from the first to become reasonable, the wound throughout its progress must be kept thoroughly under their influence; and of this particular plan I shall speak presently.—*London Medical Times and Gazette*.

[To be continued.]

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*Kill or Cure.*—A medical man called into see a child in Spolete, Italy, was informed by the father that if he cured the patient the reward would be two thousand lire, but that, should he fail, he would infallibly be shot. The child died soon after, and the father true to his word, put an end to the doctor's life with his shot-gun. If patients in Italy are as prompt to pay such good fees, as to revenge themselves, it would be a good field for doctors. One would almost run the risk of being shot, if he was about equally sure of being paid.

## CURRENT LITERATURE.

### INDIAN CHOLERA.

The abstract of a very interesting and important report on the epidemic of cholera of 1875 and 1876 in the Central Provinces of India, by Surgeon-Major S. C. Townsend, Sanitary Commissioner, we extract from the *London Weekly Times*. The conclusions of Surgeon Major Townsend cannot fail to interest those of us who are giving attention to preventive medicine, for the principles enunciated have a direct bearing upon all zymotic diseases.

“The conclusions regarding the nature of cholera, the means by which it is spread, and the conditions that determine its incidence on particular populations which seem to me fairly deducible from the facts described in this report are :—

“1. That cholera is never a product of the soil of the locality in which it occurs.

“2. That the spread of cholera over and beyond India is not effected by the means of air currents that have passed over the Gangetic Delta or other locality in which the disease is considered to be endemic.

“3. That cholera belongs to the class of infective epidemics, and that human intercourse supplies the means by which it spreads.

“4. That the infective material of cholera may multiply or increase in water containing sewage or other animal organic matter in a state of decomposition.

“5. That the infective material of cholera, when introduced into the human organism, will not produce the symptoms which constitute the disease unless a certain state of system suitable for its action in this manner has been previously induced.

“6. That in India this state of system is more commonly induced by the use of water charged with putrescent animal matter, and that the seasonal prevalence so characteristic of cholera in the country is the result of the action of drought and rainfall in charging the water supply of the people with impurities of this kind.

“7. There is reason to believe that the state of system suitable for the malefic action of the cholera infective matter may be induced by inhaling air in a confined space laden with the emanations

from a sewer or cesspool, or otherwise contaminated with putrescent animal matter ; also that it may be induced by errors in diet ; and it is not improbable that it may occasionally arise through faulty action of the excretory and depurating organs. But in India these conditions are not sufficiently common to affect the seasonal course of an epidemic.

“ It follows from these conclusions that measures for the prevention of cholera must be directed towards limiting the spread of the infection by human intercourse, or towards removing the insanitary condition which are the most common determining causes of epidemic outbreaks. General measures based on either of these principles are, no doubt, encompassed with great difficulties. Attempts to limit the spread of the infection have commonly failed, and it will be easily understood why this should be, if as there is good reason to believe, the infection of cholera may lie latent in the system for considerable periods, and if it may be conveyed and communicated by persons apparently in perfect health. The difficulties in the way of establishing barriers which shall effectually prevent intercourse between one part of a country and another are almost insuperable. Even with regard to a particular class of persons known to be infected, as pilgrims returning from the large religious gatherings, attempts to prevent their passage will almost always prove futile ; and, while they fail of their object, they inflict great hardships on the people, and afford the police opportunities for oppression and extortion.

“ But, although effectual inland quarantine may be impracticable, it does not follow that precautionary measures against cholera should have no reference to the fact that the disease is spread by human intercourse. Abundant evidence will be found in this report and the appendices of the influence of pilgrimages to the holy places and the large gatherings that are held at them, on the chief festivals, in giving origin to epidemics and promoting their diffusion over the country. The time may not yet be ripe for suppressing or authoritatively limiting these pilgrimages and fairs ; but by keeping prominently in view the fact that they are a great evil, and occasion much mortality and misery among the people, the practice of resorting to them may be discouraged, and the way towards suppressing the more dangerous of them may be prepared. In the

Central Provinces certain fairs have been suppressed, and the time of holding others has been changed, and no one acquainted with the facts doubts that these measures have been the means of saving thousands of human lives. The evil effects of the numerous marriage parties which unfortunately occur in the hot weather, when the population is most susceptible to cholera, have also been made evident in this and former reports, and it is now considered quite justifiable to discourage them in epidemic years. There are many other occasions on which the fact that cholera is communicable from person to person cannot be ignored without great danger ; but perhaps the most important is the assemblage of troops for service or for manœuvres. It is scarcely probable that any one, even of those who discredit the communicability of cholera, would have sufficient confidence in his opinion to bring a regiment actually suffering from cholera to a force collected for service ; but if, as there is reason to believe, the infection may lie latent in a body of men for a considerable period, it would not be safe to add to the force a regiment in which cases of cholera had lately occurred, although they may have for the time ceased ; neither would it be safe to march a regiment to the place of assemblage through a district in which cholera was at the time epidemic.

“ But while I believe that views which discredit and keep in the background the fact that cholera is a dangerous epidemic are fraught with danger and weaken our powers of mitigating the ravages of an epidemic, it may be admitted that measures directed solely to preventing or limiting intercourse are capable of only partial application, and that for the permanent diminution of the prevalence of cholera we must look to measures for the removal of the specific local condition which determines the incidence of an epidemic on particular populations, and without which, apparently, the infective matter remains inactive. This condition we have shown to be, most commonly water charged with animal matter in a state of decomposition ; and the most radical of preventive measures consists in supplying the people with water not subject to deterioration by exposure to a hot sun and drying winds, and not liable to contamination by the surface drainage of an inhabited area, or by the filtration of rainfall through a polluted soil.

## CONINE AND ITS SALTS.

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Under this head the London *Lancet* treats of the alkaloid peculiar to *Conium maculatum*,\* which has the various designations coniine, conin, conia, and cicutine; it must not be confounded with cornin the Eclectic resinoid.

The *Lancet* quotes from Bouchardat's annuaire for 1879, giving an abstract of an inaugural thesis by M. Tiryakian on conine and its salts.

*Conine* or *conicine* is a very unstable compound. As commonly sold it is very impure, and gives very variable results, when pure it has a powerful irritant and even caustic local action. Its hypodermic use should, therefore, be a subject of careful consideration, and should not be rashly adopted. It appears to be more active when ingested into the stomach than when injected into the stomach subcutaneously. In the latter case it does not completely disappear, the channels of absorption being partially destroyed by its local action. Hence it should, as a rule, be administered by the stomach. It acts as a poison, both on man and animals; but the organism speedily tolerates it, and owing to this toleration it is necessary constantly to augment the dose. There is no danger under these circumstances of a cumulative action being exerted, since conine is rapidly eliminated from the system.

Five grains of conine injected in divided doses into the veins of a moderate-sized dog, are eliminated in the course of two hours, provided any symptoms of asphyxia be removed by artificial respiration. The toxic action of conine may be divided into three stages. The first stage is characterized by depression and a feeling of sadness. General rigors then supervene, which are coincident with the acts of inspiration, and about the same time there is loss of power over the limbs. During the second stage the rigors are more distinctly marked; the respiration is considerably interfered with, becoming incomplete, rapid, and sometimes accompanied by chattering of the teeth; the pulse is quickened; reflex excitability is increased. This period lasts from half an hour to an hour. The third period is characterized by the diminution of the convulsive phenomena, the

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\*This plant is frequently spoken of as the same as *Cicuta Maculata*. Water Hemlock. See Am. Weeds and Useful Plants. Revised by Thurber, p. 152-153.

diminution and abolition of reflex irritability, slowing of the pulse and of the respiration, visual disturbances, and finally profound collapse. A fourth stage might perhaps be added according to whether the collapse is followed by death or recovery. In the latter case the animal passes through the same phases of intoxication that it had previously presented, only in an inverse order. Sensibility first returns, violent rigors are then observed, the respiratory and cardiac movements gradually regain their former strength and volume, the animal begins to be capable of performing spontaneous movements, the locomotive power is recovered, a drunken condition follows, and at length, in the course of an hour or two, it walks and runs with ease, appearing only to be a little depressed. Conine is neither a muscular nor a cardiac poison : it acts essentially on the cerebrospinal centres. The substance which acts on the peripheral extremities of the motor nerves is not conine—it is a kind of empyrenumatic essential oil, which M. Monnut has extracted from conine supplied from Germany, and which probably exists in all commercial specimens of the drug. The chlorhydrate and bromhydrate of conine are stable salts : they induce symptoms which are identical with those of conine itself, but are more energetic. The fatal effects of a poisonous dose of these substances seem to be due to asphyxia.

Physiological antagonism between conine and strychnia is possible ; but has not been demonstrated. The convulsions caused by strychnia can, however, be suppressed by conine. To obtain any sensible effect of the bromhydrate of conine in an adult man, a dose of, at least, 1-5 grains is required, and the quantity may be increased to three, four, or five grains, according to the effects required or the tolerance of the remedy exhibited by the patient. The bromhydrate is rapidly eliminated by the skin and lungs, hence the dose should not be too small nor must too long an interval be allowed to intervene between two doses.

As much as fifteen grains of conine, and, perhaps, more may be given in the course of twenty-four hours, in the form of pills, syrup, or draught, or the same quantity may be administered subcutaneously, as the bromhydrate does not appear to exert any local stimulant action. The symptoms in man closely resemble those observed in animals. They are, briefly, great muscular weakness,

lassitude, fatigue, heaviness of the eyelids, heaviness of the head, difficulty of walking, sleep, or often, rather a state of torpor without sleep; the intellectual faculties are perfectly preserved. There is no aberration of the sensibility, except sometimes slight hyperæsthesia and tingling of the fingers and toes, but it is never perverted or diminished. Vision is sometimes temporarily disturbed. Objects being seen as through a fog—there is no cephalalgia or vertigo. The pupils undergo no alteration, the pulse remains unchanged. There are no disturbances of the digestive tract: neither nausea, vomiting or diarrhœa. Respiration, secretion, and the temperature of the body are unaltered.

Infants at the breast are not affected by conine when it is administered to the mother, and they bear small doses well. The author thinks that conine will be found to be of service in bronchitis or phthisical cough, and in nervous cough, in whooping cough, in epilepsy, or neuralgic or articular pain. It is rationally indicated in cases of hyperæsthesia, in chorea, convulsion and trembling, and in tetanus.



## YELLOW FEVER REPORTS.\*

The accumulation of yellow fever literature is now so vast, that it is not the proper time to attempt a digest. We cannot attempt any more than to give an outline of the work before us. It has many admirable features, and no doubt, will have a marked influence on the summary of our knowledge.

The report of the committee includes details of cases of yellow fever developed in St. Louis, in persons coming to the city from southern cities where yellow fever was prevailing. These individual cases are reported to the committee by physicians who had them in charge.

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\*Reports of the St. Louis Medical Society on Yellow Fever; consisting of the Report of the Committee appointed to inquire in the Relations of the Epidemic of 1878, to the city of St. Louis, and a Report of the Meteorological Conditions and Etiology of Yellow Fever, &c., &c., by W. Huston Ford, A. M., M. D.

The state of affairs at the Quarantine Hospital is given by Mr. C. M. Francis, Health Commissioner, and this is accompanied by an explanatory diagram.

The general conclusions reached by the committee are, in brief, that

Yellow fever may be acquired at St. Louis by contact with persons sick with that disease, and with the apparel of persons who have been in contact with the sick; by entrance into the holds or apartments of steamers, or by communication with cargoes.

2d. Yellow fever, or at least an equally fatal disease in no way distinguishable from yellow fever, and like it, contagious, may be generated in loco by bad sanitary conditions in this city and its suburbs.

4th. Individuals weakened by disease, and especially the subjects of malarial fever, evince the greatest readiness to acquire yellow fever contagion.

6th. For the prevention of yellow fever in St. Louis, the most rigid quarantine possible should be established \* \* \* \* to be maintained until the month of November, or a permanent decline in the weekly mean temperature to 40°.

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11th. The cardinal property of yellow fever, so far as St. Louis is capable of being invaded by the disease, is its undisputed contagiousness. \* \* \* \* \*

Dr. Ford concludes the volume with a report on the meteorological conditions and etiology of sunstroke, cholera sporadica, malarial diseases and yellow fever. This part of the work is more than a mere report, and should be entitled a dissertation, or by some name that would indicate its controversial character.

Dr. Ford makes a confession of faith in his introduction, to the treatise on yellow fever, in which he declares it to be "not a peculiar or specific type of fever, but simply a malignant form of *typhus gravior*." That it is contagious in varying degrees, according to the susceptibility of those exposed to it, and very probably most contagious when most malignant. It is primarily caused by the action of the effluvia of animal putrefaction upon the human body under cotemporary conditions of high atmospheric heat and humidity. Wherever it appears, it is caused in the first instance, by the emanations from putrefying animal matters, more especially the urine and feces of man and animals, and is propagated by its own *materies contagiosa*.

We cannot follow our author through the mass of material he has gathered, but give extracts of concluding paragraphs on etiology.



“The day has come when we must forever cast aside this jejune doctrine of exclusive importation; knowing its fallaciousness, we must henceforth refuse to be seduced into apathy by its treacherous seductiveness; knowing its falseness, we must peremptorily refuse to be led by the men whose lack of insight has allowed communities entrusted to their care to slumber in the very jaws of death.

“It is constantly affirmed that the southern cities are not in a bad sanitary condition, and that many parts of the finest cities north of latitude 38°, are in quite as bad a condition as any of them. This is altogether a misstatement, and if true, would signify very little indeed. For the last twenty-five years, I have keenly watched these points, in a quiet way, and in the principal southern cities. Then hygienic difficulties, owing to a location in almost every case, on low flat plains near the ocean or rivers, or on the Gulf of Mexico, are almost insuperable. No natural cleansing, like that which occurs in cities built on elevated undulating ground is possible—all must be artificial. But at the same time, cow-yards and stables—are universally permitted, and above all, the execrable system of privies without drainage, built in the ground, is practiced in every one of them.”

Dr Ford treats very extensively of the use of *veratrum viride* in yellow fever. The whole tenor of this part of his dissertation shows a degree of enthusiasm for *veratrum* which we thought had well nigh died out. He claims that by this treatment there is a reduction of the mortality to one-third or even less than this, of what is usual in other modes of practice. \* \* \* \* Under *veratrum* treatment, convalescence sets in very promptly, and is almost invariably uninterrupted. There are very seldom any sequelæ of consequence. Black vomit is rare, and is often recovered from, especially in children. Hemorrhages, jaundice, and suppression of urine seldom are seen.

We trust Dr. Ford's estimate of *veratrum* is sound, for after seeing the very charming effects of *veratrum* in puerperal fever, we are inclined to partake of the writer's enthusiasm. We hope it will be more extensively used, and will look with increased interest for further observations on the subject.

## YELLOW FEVER.\*

Who else but the author of this contribution to the literature of yellow fever could write such a paper as this. The most diligent student in America would stand appalled at the labor necessary to cover the ground gone over by Dr. Jones. In the very outset of it, he lays out the task as he thinks it ought to be done, in fifteen propositions. "The investigation of any specific disease" he says, "should embrace

1st, its origin in time and space; 2d, history; 3d, relations to climate, soil and waters; 4th, relations to race, food and sanitary conditions, habits and occupations of human beings; 5th, accurate records of the symptoms at stated periods of the day and night, exhibiting the changes of temperature, pulse and respiration, and unfolding accurately the manifestations of the nervous, muscular, cutaneous, circulatory, alimentary and urinary systems; 6th, microscopical examinations of the blood, associated also with microscopical and chemical analysis of the air and waters; 7th, chemical analysis of the blood; 8th, chemical and microscopical analysis of the urine, sweat, saliva, gastric and intestinal juices and excretions and morbid products; 9th, chemical and microscopical examination of the various organs and secretions as the bile; 10th, post-mortem observations of changes of temperature; 11th, post-mortem examinations, embracing accurate details as to the physical, chemical and microscopical characters of the solids and fluids; 12th, prevention; 13th, prophylaxis; 14th, treatment; 15th, relations of symptoms, pathological chemistry and physics, and pathological anatomy, to analogous conditions and changes, in related and diverse diseases."

The task is completed in the short space of little more than a hundred pages, and in a way that would have done the heart of the great Louis good to have seen.

The history of malarial fever is sketched, but more particular attention is paid to the history of yellow fever. Dr. Jones concludes that yellow fever finds no place in the annals of general history, or of medicine previous to the discovery of America by Columbus.

The question "Was yellow fever known to the aborigines of America before its discovery by Columbus?" is left in doubt, but he gives the analogies between the Mexican pestilence, *matlazahuatl*

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\*Comparative Pathology of Malarial and Yellow Fevers. By Joseph Jones, M. D., Prof. Chemistry and Clinical Medicine, University of Louisiana.

and yellow fever. The latter pestilence desolated the cities of the Toltecs in the eleventh century, and forced them to abandon Mexico, and to continue their migration southward, to the north and northwest; it invaded the populous cities of Central America, and a similar disease committed ravages amongst the Indian tribes which occupied the country between the mountains and the Atlantic coast a few years before the landing of the Pilgrim Fathers. The matlazahuatl resembles to a certain extent the disease known in the Southern States since the war, as malarial hæmaturia, a disease which has been attended with a high rate of mortality. Dr. Jones makes the following comparison between yellow fever and malarial hæmaturia.

“ Malarial hæmaturia (*hæmogastric malarial fever*), as a general rule, occurs only in those who have suffered from repeated attacks of intermittent fever, or who have been enfeebled by a prolonged attack of remittent fever, or whose constitutions have been impaired by bad diet, excessive labor, and frequent exposure to cold and wet and the exhalations of swamps and marshes. And whilst some of the symptoms—as the nausea, incessant vomiting (and in extreme cases black vomit), deep jaundice, and the impeded capillary circulation—resemble those of yellow fever, yet there are marked differences between this disease and yellow fever. The presence of albumen in the urine of this so-called malarial hæmaturia is attended also with the presence of colored blood-corpuscles, excretory cells of the kidney and of the tubuli uriniferi. The excretory tubes of the kidney appearing in the urine are often impacted with colored blood-corpuscles, and deeply stained by the coloring matters of the blood. As a general rule in yellow fever, the tubuli uriniferi are loaded with yellow, granular, albuminoid and fibroid matter. In some cases immense quantities of green biliary fluid, or liquid tinged with bile, were vomited, and the patients died in a state of collapse, with blue mottled and purplish extremities, and sunken, pinched features. As a general rule, suppression of the functions of the kidneys was a fatal sign, and as in yellow fever, was sometimes attended with convulsions, coma and delirium. Careful examination of the blood revealed a marked decrease in the fibrin and colored blood-corpuscles; in fact, this change in the blood was characteristic of all cases of this disease which have come under my

observation. The pathological changes which I have observed after death from malarial hæmaturia are characteristic of paroxysmal malarial fever, and not of yellow fever—viz. : enlarged slate-and-bronze-colored liver, loaded with dark pigment granules, deposited in greatest numbers in the portal capillary net-work ; gall-bladder distended with thick, ropy bile, presenting when seen *en masse*, a greenish-black color, and in thin layers a deep yellow. As much as 1000 grains of bile of high specific gravity has been obtained from the gall-bladder, whilst in yellow fever not more than 120 grains of bile are, as a general rule, contained in the gall-bladder.”

Dr. Jones’ review of the history of pestilences similar to the yellow fever, drawn from sources extending as far back as 1545, leads him to the following conclusions :

1st. As destructive and extensive pestilences, resembling yellow fever, have destroyed the aboriginal inhabitants, in former times, when they formed a numerous and comparatively dense population, we are justified in holding that the American Continent has been in past ages subject to the wide spread terrestrial, celestial and climatic conditions which were hostile to human life.

2d. The experience of the past leads to the belief that such destructive combinations or conditions may occur in the future and cause wide spread destruction uncontrollable by human means.

3d. Yellow fever has, since the advent of Europeans in the Antilles, and in North and South America, prevailed at various periods, separated by no uniform intervals, with great violence and during such periods its area has been widely extended, as in 1878.

4th. However perfect the sanitary arrangements and complete the quarantine regulations of cities situated within certain parallels of latitude, it is probable that in seasons of great epidemic influence, human agency may fail in the circumvention or arrest of the American plague.

5th. In insular, tropical and subtropical America, one of the most essential conditions for the increase of yellow fever, is the accession and crowding of unacclimated persons, natives of the colder regions of America and Europe, in cities or on ship-boards. Armies and navies are the great fields of its ravages.

Bringing the history of yellow fever down to a more recent time we have the following significant extract :

“The immunity of New Orleans from yellow fever in 1863, 1864 and 1865, can no more justly be referred to the sanitary measures of the United States Government during this period, than to those of the city and State, and Confederate Government in 1859, 1860, 1861 and 1862, when New Orleans enjoyed an almost equal immunity from yellow fever, the deaths from this disease being in these years respectively, 1859, 92 ; 1860, 15 ; 1861, 0 ; 1862, 6. We have no data to show the actual number of deaths amongst the Federal troops on land and water in and around New Orleans, 1863-1865 ; that yellow fever was present during this period and that it *originated de novo in the port of New Orleans* is well established.

“Dr. Elisha Harris, in his article, ‘Yellow Fever on the Atlantic Coast and at the South during the War,’ established that ‘Yellow fever visited twenty-five vessels in the fleet anchored in front of New Orleans during the summer of 1864, and that the disease appeared first, namely, as early as September 12th, in vessels that had been for a long time anchored there. Filthiness, crowding, excessive heat and moisture, and utter lack of ventilation and lighting, together with the stagnation of the local atmosphere of these oven-like boats, incident to anchorage in a tideless stream, constitute the leading facts relating to the infected vessels.’”

Dr. Jones give the statistics of the ingress of population, and cites the prevalence of yellow fever in relation to crowding, and says :

“We have thus established a close relationship between the origin and spread of the yellow fever in New Orleans and the accumulation of unacclimated persons.”

The relations of malarial and yellow fevers to climate are considered in a very minute way. Statistical tables and meteorological conditions, having special reference to the city of New Orleans, are arranged with great care. Dr. Jones seems to have traversed the whole range of accessible literature.

The general outline of the symptoms and pathological anatomy of yellow fevers is arranged in parallel columns to facilitate comparison. We had intended to extract enough of this portion of the work to give the reader an idea of its value, but must be satisfied with such an outline as we have given. We expect from the intimation given in this contribution that much of this work will find a permanent place in the 2d volume of Dr. Jones’ Medical and Surgical Memoirs.

## THE YELLOW FEVER "GERM," ON COAST AND INLAND-SHIP AND RAILROAD QUARANTINE.\*

A brief synopsis of Dr. Campbell's views we will undertake to give, although the pointed arguments he makes, deserve a fuller consideration.

Speaking of FILTH as a cause of yellow fever, he first declares, and he wishes it so understood that "Freedom from filth, is the first, the last, the most indispensable condition of the maintenance of the public health. And yet, the general unquestioning acceptance we all give to this universally acknowledged principle, has sometimes led us widely astray, and blinded our minds to the recognition, in particular instances of other factors, which are in some cases equally, and in a few others incomparably more important and influential in the origination of diseases."

For illustration, he does not believe that any amount of filth could engender *per se*, small-pox, measles, whooping cough, and scarlatina.

"My own views may be thus generally expressed :

"1st. That the origin and propagation of yellow fever is dependent upon what may be recognized by its effects as a specific germ—at present hypothetical, but not more so than other forms of atmospheric poisons, malaria, etc.

"2d. That this germ is an exotic wherever it may be found in any of the localities of this country—probably domesticated in certain localities, as New Orleans, so as to have become feebly naturalized, or *quasi* indigenous at times.

"3d. That the assemblage of phenomena recognized and called by us "yellow fever," and which are of a specific and uniform character, owe their specificity and uniformity to the specific nature and unvarying form of this atmospheric germ, in the same manner as do small-pox, measles and scarlatina owe their specificity of form to the peculiar contagion which had originated each one of them. In the same manner, to be more familiar, as do the narcotism of opium and the tetanus of strychnia owe the specificity of their manifestations to the varying physiological effects of these two toxic agencies in the blood of the subject.

"4th. As without the specific virus, we could never originate a case of small-pox, so do I believe, without the specific germ, no condition however unsanitary—even did we accumulate filth, piling

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\*Paper read before the Medical Association of Georgia, Rome, April 18th, 1879; by Dr. Henry F. Campbell, Augusta, Ga.

it up from the pavement to the sills of the second-story windows—would enable us to manufacture a single case of genuine yellow fever. We might poison and kill the entire community with indigenous germs, some forms of which are even more promptly and surely fatal than the terrible and mysterious exotic itself; but without the yellow fever germ, hibernated or recently imported, we can have no yellow fever in its genuine and indubitable individuality.

“5th. Comparing then, that which is minute, intangible, and as yet hypothetical, with that which is gross, common and cognizable to the senses, I would as hopefully look for spontaneous origin to be given to a banana, a pineapple, or a plantain, by some particular preparation of our soil, as I would expect a case of yellow fever to originate in any of our ports or inland towns without the previously imported germ as the source of its inception. The exotic germ is no more naturalizable than the exotic fruits—even less so.

“6th. Though I regard the germ as indispensable to the origination of the disease, I would, by no means, be understood as abating, in the slightest degree, the imperative necessity for the strictest purity, otherwise, of air and water. I can conceive of such purity in the surroundings of a locality into which these germs might be introduced as would fail in giving them the support necessary to their propagation, and it is true that propagation is less active and their decline more rapid in localities where sanitation has been untiringly enforced than in neglected and unwholesome places.”

Dr. Campbell has very decided reasons for relying upon the quarantine, “even considering all the acknowledged failures in the past.”

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## WÄCKE ON DELIRIUM TREMENS.

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Dr. Wäcke having had ample opportunities of studying this affection, has arrived at the following conclusions:—1. Delirium tremens potatorum is always caused by an abuse of liquor, which has extended over a certain time. The outbreak of the delirium is generally due to some psychical or physical emotion, *e. g.*, an epileptic fit, or a state of intoxication. If the patient is much reduced in strength, or has had already repeated attacks of delirium, a slight cause may produce the attack. 2. The quantity of liquor which will cause delirium, or the length of time which precedes the

outbreak of the affection, varies according to individuals, the climate, the race, and social position. Wine and beer act much more slowly in causing delirium than brandy. This is the reason why the affection is so commonly met with in countries where much brandy is consumed, as in Russia, America, etc. 3. Spirits distilled from potatoes seem to have a more deleterious effect than others, probably because they contain so much alcohol of amyl. If the patient is in the habit of mixing different sorts of liquor, the affection is apt to break out at a much earlier period than if only one sort is taken. 4. Social and climatic conditions seem to exercise a considerable influence on the frequent occurrence of delirium tremens, as it is less frequently met with in wealthy countries. 5. The female sex is less exposed to delirium tremens than the male among the working classes; persons who are exposed to the vicissitudes of the weather, or who have much to do with spirits, *e. g.*, innkeepers, waiters, etc., are more liable to contract it. It occurs most frequently in individuals between 30 and 50 years of age, especially between 35 and 40. The youngest patient was 18 years old. The greatest number of cases have come under notice late in the latter part of autumn and in summer. 6. In 5 per cent. of the cases, the affection is merely an abortive form of the disease; it might perhaps be regarded as a delirium tremens which has not gone beyond the prodromal stage. This slight form frequently, at a later period, develops into the genuine delirium tremens. In the female sex, this abortive form is met with as a rule, and the real delirium tremens only in very exceptional cases. 7. Another form of the affection, which is little known and very seldom met with, is the chronic delirium tremens. The author gives this name to a series of abortive paroxysms, which are preceded by an acute well-defined attack of delirium tremens. There are generally more or less lucid intervals between the attacks. This condition lasts for weeks or even months, and the prognosis is very bad. 8. The prodromal state generally extends over two to three days. The characteristic symptoms of delirium tremens are, among others, great thirst, an increased secretion of sweat, and more or less acute digestive troubles. 9. In one-third of the cases there was a slight febrile movement; the temperature, however, did not go beyond 100.6°. A high temperature would be a symptom of some internal inflam-



matory process. The febrile movement does not occur during the prodromal stage, and as a rule only on the first day of the actual delirium. The author explains it as a mere rising of the physiological exacerbation of temperature which occurs at night. The pulse and respiration were normal. 10. In 82 per cent. of the cases there was albuminuria (renal and cardiac affections excepted). In one-fourth of these cases this transitory albuminuria was complicated with fever. The albumen increased in proportion as the temperature rose; but not in proportion with the delirium. It generally vanished as soon as the paroxysms were over. It appears from some chemical tests that an exceedingly small amount of phosphates is excreted at first, and that it gradually increases during the course of delirium tremens. 11. The hallucinations are mostly illusions of sight and hearing; occasionally the taste and tactile perception are also affected. The patient is in a state of profound depression; he is surrounded by phantoms which persecute him. In one-third of the cases the patients had visions of animals, and contrary to the usual assertion, they saw large animals, not merely small ones. The visions vary very often, so does the patient's state of mind. 12. All the symptoms of the affections exacerbate at night; even after a good night's rest they are apt to recur. 13. The death-rate from delirium tremens vary very much. The first paroxysm is, as a rule, the most dangerous one. In no case has the *post-mortem* examination revealed any peculiar changes in the body. 14. Narcotics, if given at the onset of the affections in moderate doses, seem to shorten its duration, and to render it less violent. Three to five grammes of chloral given in two doses, generally induced sleep; the dose had often to be repeated. Straight jackets, straps, etc., ought never to be used, as they are apt to produce hallucinations. In cases where the patient is likely to be very violent, the author advises that he should be shut up in a warm padded room by himself, and be dressed in untearable garments.—*London Medical Record*.

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The intense itching in jaundice is promptly relieved by the hypodermic injection of 1-10th to 1-5th grains of muriate of pilocarpia. In one instance its employment to overcome the itching, had also the effect of causing a copious alvine evacuation.

## REVIEWS AND BOOK NOTICES.

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**MATERIA MEDICA AND THERAPEUTICS. Vegetable Kingdom.** By CHARLES D. F. PHILLIPS, M. D., F. R. C. S. E. Edited and adapted to the U. S. Pharmacopœia. By Henry G. Piffard, A. M., M. D. New York: William Wood & Co., 27 Great Jones Street. Pp. 323.

In this work, which includes only the vegetable materia medica, the arrangement is after the botanical order, less convenient than the alphabetical plan, especially to the American student, who pays no attention whatever to botany.

Each article of the Materia Medica is treated as follows: The officinal and botanical names are given. The active ingredients of the drug are described. The physiological action is next in order, followed by the therapeutic action, then the preparations into which it enters, and the dose. Many articles are treated fully, that hold only subordinate places in our standard works, and the notes of the American editor, short as they are, add greatly to the value of the work.

The following abstract from the article on apomorphia will prove interesting :

Apomorphia, discovered by Matthiessen and Wright in 1869, is made by heating morphia for two or three hours in a close tube, with a large excess of hydrochloric acid, the result being the formation of the new substance. It is precipitated with bicarbonate of soda, and the precipitate removed with chloroform or ether. The solution is treated with hydrochloric acid, when chloride of apomorphia deposits on the sides of the vessels. It is afterwards precipitated with bicarbonate of soda. Pure apomorphia is a snow-white substance, rapidly changing to green upon contact with the atmosphere: when it has become green it is partially soluble in water and in alcohol, forming in either case a beautifully colored solution.

The therapeutical history of this new drug is given, showing its first successful application to produce vomiting. In addition to this property, wonderful enough when we think how widely it differs from all opium preparations, he says there are reasons for thinking that apomorphia may act as a contra-stimulant or antiphlogistic

sedative. He further remarks that, although the action of small doses of apomorphia on man are so extremely unlike that of small doses of morphia, the poisonous action of large doses of these alkaloids on cats is very similar.

In speaking of turpentine (p. 105) the *oil* of turpentine is evidently mentioned. A dose of two or three teaspoonfuls of turpentine could hardly be given in its crude state.

This volume belongs to Wood's Library of Standard Medical Authors, and it, together with the others of the series, deserve an extended circulation.

Jaborandi seems to be mentioned by the editor, only to give warning against its indiscriminate use. (P. 140). "We have not had as yet sufficient experience with it to hazard any conclusions concerning its practical utility."

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THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL ANÆSTHESIA :  
A Manual of Anæsthetic Agents, and their Employment in the  
Treatment of Disease. By LAWRENCE TURNBULL, M. D., Ph. G.,  
&c., &c. Second Edition. Revised and Enlarged. Philadelphia :  
Lindsay & Blakiston. 1879.

The administration of anæsthetic agents has been studied very thoroughly in the last few years, and the accumulation of experience renders it necessary that a separate treatise should be devoted to it. This is the best book we have seen on the subject, since the articles of Mr. Vivian Pavre in the *Lancet* several years ago. Much of the material we find here could well be left to a regular treatise on *materia medica*.

The author has collected a number of cases of death from ether, and enough of deaths from chloroform to construct a folding table. In ten years, seventeen deaths from chloroform have occurred in this country, and many less of ether. When more attention is paid to anæsthesia in surgery, fewer deaths will probably occur. It is not reasonable to expect that there can be perfect safety in a condition so dangerous as anæsthesia, and the doctor who informs himself from the work that Dr. Turnbull has given to us in such attractive form, he will anæsthetize his patient carefully, and learn never to undertake the simple performance without fresh impressions of its possible danger. The doctor who divides his attention between the surgery and the anæsthesia in a case is not fit for either.

We do not discover that Dr. Turnbull has given his acquiescence to the narrative of the priority of the employment of chloroform to Dr. Crawford Long, although his historical accounts are ample.

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ON COUGHS, CONSUMPTION, AND DIET IN DISEASE. By HORACE DOBELL, M. D., F. R. M. C. S., etc. Philadelphia: D. G. Brinton, 115 S. Seventh Street. 1879.

"This work has been made up of a series of extracts so arranged that they form a connected treatise on the diagnosis and treatment of some of the most common diseases of the respiratory organs. These extracts have been drawn from the various published lectures of Dr. Horace Dobell, of London, one of the most accomplished physicians of our day."

The editor has divided it into three parts: 1. The Diagnosis of Bronchial and Pulmonary Diseases. 2. The Treatment of Colds, Coughs, and Consumption. 3. The Principles of Diet in Disease. Much that is of value has been collected under these heads, many small things which in the aggregate are of great importance, but which nevertheless are usually slighted.

The authors of our times are very much subject to the caprices and fashions of medical readers. A few years ago Dobell's theory and practice of giving pancreatine to patients in the early stages of consumption, was quite the rage, and the theory seemed to be borne out by the practice. Now we less frequently hear of it, and Dobell is passed by for the new book just out. A careful reading of this book will show how marked an influence it has had on the present practice in phthisis, especially as to the dietary.

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MEMORANDA OF POISONS. By THOMAS HAWKES TANNER, M. D., F. L. S. Fourth American Edition. Philadelphia: Lindsay & Blakiston. Pp. \$2.00

All of Dr. Tanner's works have met with an appreciative reception from the American and medical profession. This little work is a ready reference volume of no mean value, and fills a place in the library quite as well as some of the more pretentious works. Accuracy and conciseness are the prominent features, although one exception to this statement is, that on page 184, in speaking of "abortives" he mentions that "In America extract of *Cotton-wood*

has a reputation as an abortive." The reference here made is evidently to *Gossypium*, as *Cotton-wood* has no such reputation.

The next revision of the work must necessarily include apomorphia as an emetic, and nitrite of amyl as an antidote to chloroform.

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THE SUMMER AND ITS DISEASES. By JAMES C. WILSON, M. D., Philadelphia: Lindsay & Blakiston.

This is the third in the series of American Health Primers. Its object is "to point out some of the peculiarities of the summer climate; to show what season influences at the time act unfavorably upon the public health, and to suggest such means as will best enable each individual to escape the sicknesses peculiar to summer by avoiding the causes which give rise to them."

Physicians frequently find it a convenience to recommend sound and instructive books written within the comprehension of his patients, and many will no doubt call attention to this one, as comprising these qualities.

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ANNUAL REPORT OF THE NORTH CAROLINA EXPERIMENT STATION. For 1879. Printed by order and at the expense of the Board of Agriculture. 1879. Raleigh, N. C.: The Observer, State Printer. July, 1879. Pp. 200. Svo.

Our farmer-doctors now have a double interest in the work being done by the Agricultural Department. The Director of the station, Albert R. Ledoux, A. M., Ph. D., is a member of the North Carolina Board of Health, as well as chemist to the latter body. The work he has in hand for the Board of Health is of great interest to all citizens, and this report increases our assurance that the very best arm of our health law is in the hands of one competent to perform it with accuracy and good judgment.

The variety of subjects treated in this volume shows how broad a range of work can be accomplished by the persevering industry of an educated man. We are pleased to see that Dr. Ledoux has called attention to the danger of impure seeds, and that he discusses the parasitic *dodders*, *à propos* to the introduction of it in some clover seed sent for examination. One of the species of dodder (*euscuta epilinum*) was an old time pest in Orange county, infesting the flax. We presume it disappeared it with the abandonment of

the unprofitable crop, as cotton came into the market as a competitor.

Those farmers who know the facts or the tradition of the trouble *dodder* gave, will be glad to learn how to recognize the difference between these and clover seeds.

The identification of the *velvet meadow grass* as *Holcus lanatus*, and a confirmation of its merits, as a productive and excellent forage grass, tenacious of life, and suited to poor land, is worth a thousand learned essays on the chemistry of farming.

An examination of soil from Savannah lands, sent by Mr. D. S. Cowan, of Brunswick county, clearly entitles these lands to the name of barrens given them by Michaux. He shows that sand, water, and a very small percentage of organic matter constitute the soil, there being only a trace of lime and no potash. This shows that it would not pay to put such land under cultivation, but that it had better be left to the native coarse grasses and dog-tongue (*Liatris odoratissima*) which make the Savannah lands appear so beautifully green. It is in such soil too, that the wonderful Venus fly-trap flourishes.

We have exceeded the limit of our space, because of the importance of this subject in its double relation to the body of the profession.

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ON THE DISEASES OF THE STOMACH, The Varieties of Dyspepsia, Their Diagnosis and Treatment. By S. O. HABERSHON, M. D., Lond. Third Edition. Pp. 323. Lindsay & Blakiston. Philadelphia.

The beautiful type of this neat volume attracts at once the attention of the reader, and soon he is interested in the contents. This work has gone through this, the third edition, which speaks well of the esteem in which the author's teaching is held.

The author writing of the changes of digestion at different periods of life give this valuable paragraph for the benefit of elderly people :

“Some of those who have attained to advanced age are unwilling to depart from the habits of earlier years; it is with them very important that, during the hours of the night some bland nutriment should be taken, if there be wakefulness; and although late

heavy meals are very undesirable, still the exhaustion which comes on during the hours of night is often followed by impeded circulation and faintness. It is thus the heart, during the night, not very rarely ceases in its action altogether; and the man who has retired to rest without any consciousness of danger is found in the morning lifeless. It is equally injurious so to excite and oppress the system by improper diet and stimulant, as to endanger the integrity of the minute ossified vessels of the brain, and thus cause an apoplectic attack." (P 34.)

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DISEASES OF THE INTESTINES AND PERITONEUM. By John Syer Bristowe, M. D., J. R. Waddell, M. D., J. W. Bigbie, M. D., S. O. Habershon, M. D., T. B. Curling, F. R. S., and W. H. Ransom, M. D. New York: William Wood & Co. 1879.

This, the sixth volume of Wood's Library of Standard Medical Authors, deserves the same favorable notices we gave the other volumes, and is fully up to the standard as far as typographical execution is concerned. It will fail to interest those who have already in their libraries, Reynold's Practice, as this volume is a reprint of the contribution on the same subject in that work. This so far from detracting from its merits however, adds to it, and affords an opportunity to procure this separate treatise at a small cost.

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GUIDE TO THE EXAMINATION OF THE URINE, With special reference to the Diseases of the Urinary Apparatus. By K. B. HOFFMAN, Prof. University of Gratz, and R. Ultzmann, Docent at the University of Vienna. From the Second Edition. Translated and Edited by E. Forchheimer, M. D., Professor of Medical Chemistry at the Medical College of Ohio. Cincinnati: With illustration. Peter G. Thomson, Publisher, 179 Vine St. 1879. Pp. 200. Price in cloth \$1.50, in leather \$2.00.

There has been a marked increase of attention paid to uropathology in the past few years, and book after book comes to us, until the field seems now to be well occupied.

The arrangement of the work before us is a little different from any of the "guides" and "hand-books" we have seen. It commences with a chapter on the microscopic structure and function of the urinary organs "without a knowledge of which," the authors insist "comprehension of disease becomes an impossibility."

The physical characters and chemical constituents of the urine are treated, as far as they seem to the authors important to the practicing physician. The work concludes with a key to the method of examination, and a description of the simple, uncomplicated diseases of the urinary organs, in so far as they give signs that can be utilized for diagnosis.

We call attention to acetate on page 73, intended for acetate, and we notice several misprints and typographical errors, blemishes which detract from the handsome appearance of the work.

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PHYSIOLOGY AND HISTOLOGY OF THE CEREBRAL CONVOLUTIONS, ALSO POISONS OF THE INTELLECT. By CHAS. RICHEL, A. M., M. D., Ph. D. Translated by Edward P. Fowler, M. D. New York: Wm. Wood & Co. 1879.

Following so closely upon the published work of Ferrier, Fritsch, and Hitzig, the work of Dr. Richet should present more than a review of the work done by these authors. The translator thinks that this work "seems a natural complement to Charcot's Localization in Diseases of the Brain," and that in the anatomical part is included the latest researches.

1. A historical review is made of the different opinions on the structure of cerebral convolutions, from Hippocrates to the present time.

2. A general arrangement of the convolutions.

3. Organized elements of the convolutions, a general resumé of which he gives as follows: (1). Pyramidal cells. (2). Giant cells. (3). Myelocytes. (4). Fusiform cells. (5). Amorphous substance. (6). Fibrillary nerve-prolongations. (7). The vessels with their lymphatic sheaths. And this leads to

4. Structure of the convolutions in general.

The second part of the work treats of the physiology of the convolutions, and this the author has illustrated with diagrams of convex and internal surfaces of the human brain, the names of the convolutions and other regions clearly printed upon them, after the manner of Gray's anatomy, and also a hemispheres of a dog's brain, after Ferrier. Indeed nearly all the cuts are from this author or Fritsch.

The author does not fail to give Dr. Bartholow a "dig" in a foot



note. He says : "He plunged needles into different parts of the brain, passed electric currents through these, and watched the results. The patient died two days after ; but the needles had nothing to do with the death !" Dr. Bartholow, clearly enough, explained this matter, and our readers will know how much of the sarcasm he deserves.

The functions of the convolutions is in the concluding chapter. The motor, sensorial and intellectual functions are considered separately, comprising the most interesting part of the work.

In a few words the author embraces a conclusion of his work, "too hasty to escape imperfections ;" the brain is not a simple organ, and "it would be a false path to seek therein a general focus uniting all the impulses, impressions and volitions."

The inferior vertebrata are very simple beings ; their movements are very nearly automatic and seem to be reflexes of the least possible complication. But as one ascends the scale a perfecting apparatus in the cerebral gray cortex is added.

"The more the psychical, sensorial, and ideo-motor functions are developed the more the grey substance is developed. In the superior mammifera this layer of nerve substance has to assume folds and irregular volutions in order to find room in the cranial cavity. It is in this layer that the intellectual functions are elaborated, and from thence comes also the psycho-motor impulsions. The route taken by these impulsions is now known ; it is by way of the white fasciculi neighboring the fissure of Rolando."

The Poisons of the Intellect appended to this work are considered, and they are alcohol, chloroform, haschisch, and coffee, and we cannot but regret that the space had been given to the further discussion of the physiology of the brain instead, though it is pleasant reading.

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POCKET THERAPEUTICS AND DOSE-BOOK : With classification and explanation of the action of medicines, &c., &c. By MOSES B. STEWART, JR., B. A., M. D. Pp. 265. Price \$1.00.

We have had frequent occasion to refer to Dr. Stewart's book, and have found it to be all it pretends to be a remembrancer to be referred to in emergencies and cases of doubt. The subjects are arranged alphabetically, by "catch letters" in the margin, a plan

that renders it easy of reference. The doses in apothecaries weights in grammes are given, and a short but sufficient account given of the "Action and Uses" of the articles.

Formulas for hypodermic injections, vapor inhalations, nasal douches, &c., are given. Then follows a table of "solubility," supplemented by a table showing how ordinarily insoluble substances are rendered soluble. Incompatibles and Antagonists are now treated, and Diseases and Remedies form another useful section. Every practicing physician will thank us for advising him to buy this little book.

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### LEPROSY IN SCOTLAND.

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Dr. Andrew Fergus in his late address on "Preventive Medicine" before the British Medical Association, gave some interesting items about leprosy.

The lady of Lochow built in leper-house at the Gorbals of Glasgow in the year 1350, but some hospitals were founded much earlier, even more than two hundred years before the Glasgow institution. In the burgh records for 1573 we find that the then magistrates ordered four persons supposed to be lepers, "to be viseit, and gif they be found so, to be seclndit of the town in the Hospital at the Brigand."

Another relic: In May, 1585, the authorities of Aberdeen built ports to prevent the entrance of people who might bring the infection. Gibbets were erected "one at the nearest cross, one other at the brig of Dee, and the third at Haven mouth, that in case any infectit person arrive or repair by sea or land to this brough, or in case any indweller of this burgh receive, house, or harbour, or give meat or drink to the infectit person or persons, the man to be hangit, and the woman to be drownit."

Now, the British doctor to see leprosy, must look to distant countries for a case.

## THE STATUS OF THE STATE BOARD OF HEALTH.

*Editors of the North Carolina Medical Journal:*

According to an Act passed by the late Legislature, supplemental to an Act creating a State Board of Health, a number of the physicians of Buncombe county, met at Asheville to organize an auxiliary Board of Health.

After some discussion between the Mayor, Chairman of County Commissioners, and some of the older physicians present, it was decided that, according to the reading of Section 5, of the Act above referred to, no physician had the right to become a member of the auxiliary Board of Health who had not passed a successful examination before the State Board of Medical Examiners, unless he had been in the practice of medicine prior to the reëstablishment of that Board, which took place, I believe, in 1859. It was argued by some present that any physician, with a diploma from a "regular" medical school, was then "eligible" to membership in the State Medical Society, and therefore, had a right to become a member of the County Board.

If it be true that the County Board of Health is to be composed of those only who have passed favorable examinations before the State Board of Medical Examiners, and those who entered the practice before 1859, then several of our Western counties will be destitute of a Board of Health—destitute, at least, until some of the physicians pass their examination. And so long as the Medical Society meets so far away from our part of the State it is not probable that physicians in this end of the State will quit their practice to go and be examined, unless they were blessed with railroads.

Mr. Editors, I don't write this letter for publication but would like for you to give it some attention and let us hear from *you* on the subject in your next JOURNAL.

Respectfully,

W. LATTA REAGAN, M. D.

Weaverville, N. C., August 2d, 1879.

We thought it hardly necessary to repeat at this late day, that the condition of membership in the County Boards of Health, is that the physician applying shall have either commenced the practice of medicine in the State before April 15th, 1859, or have received the license of the Board of Medical Examiners. Diplomas from regular medical schools have no legal weight, and with our experience in the relative merits of candidates, we should say for the most part, they deserve none. It is violating no confidence to say in this connection, that the high name of a medical school is no criterion of the standing of the students graduated therefrom. On the other

hand it is not rare that the most satisfactory examinations before the State Board of Examiners are passed by medical students who have attended only one course of lectures.

The object of the law is to elevate the condition of the profession, by only permitting those physicians who have dutifully accepted the mandate of the State and received the license of her Board of Examiners, to become members of the County Boards of Health.

Distance of the meetings of the Board is not much of an obstacle to those gentlemen who fully appreciate its advantages, and we expect to see a large number of Western physicians come before the Board next May, in Wilmington. Doubtless at some future day, the meeting will be in Asheville or some western town, but this cannot be sooner than 1881. The younger men must bestir themselves, and take an early stand in the legalized body of the profession, and not regard it as a matter of indifference until the necessity actually stares them in the face.

If the Board of Health law does not mean that the legalized profession is to take the lead in all matters of sanitary reform, excluding positively those who cannot obtain the license of the State Board of Examiners, or who wilfully refuse to be examined for it, then its meaning is greatly misunderstood.

We are not merely answering Dr. Reagan's letter, but very many of similar tenor that reach us from time to time.

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## HARVEAN ADDRESSES.

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In reviewing the American addresses on Harvey, the *Medical Times and Gazette* thinks Dr. W. S. Forbes, of Philadelphia claims more for Harvey, and is more jealous of his reputation than they are in England. Dr. Forbes claims that Harvey knew the use of the microscope and that he discovered "the exact channels" by which the blood passes from the arteries into the veins. Dr. Forbes quotes Huxley in opposition to this view, but says that the "compound microscope was discovered by Hans Zausz about the year

1590 ; and one of the microscopes was in the year 1617 in the possession of Alkmaar, who then resided in London as mathematician to King James. May not Harvey have known of it ? But if he did not, it does not require a compound glass to see the capillaries. "A common double convex-glass, magnifying only three and a half diameters, gives a clear view of these vessels." Harvey was in the habit of using a double convex lens ; and he saw and described the "punctum saliens" of the egg with what he calls "perspicilli." Is it not a fair inference that he could with the means at his command have seen the capillaries ? We venture to think that the fact he never says he saw them is quite sufficient.

The true meaning of the word *porositatis* is then considered, but is decided against Dr. Forbes, by weighty authority, to mean identically what the English word porosity now means.

We still believe that Harvey never saw, and did not know of the exact channels constituting what we call the capillary system. It was left to Malpighi to first *see* the circulation of the blood, and to demonstrate the capillaries.

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*Martin's Elastic Bandage.*—Rushton Parker, M. B., F. R. C. S., &c., says in an article in the London *Lancet* (Am. Ed., September, 1879,) on treatment of inflammation of the joints by elastic pressure: "I do not therefore join in the indiscriminate welcome which some accord to Martin's elastic bandage, which is a sensational rival, in a decidedly deteriorated form, of a known and well-approved device that has never yet died out, and consequently not yet stood in need of re-discovery."

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*Horlick's Food* sent to us for trial was given first to a case in which gastric catarrh and vomiting were troublesome. No food, not even milk would stay on the stomach. This succeeded.

In another case, hepatitis, with obstinate vomiting and loathing of food, this preparation was used with success, after champagne, Apollinaris water, &c., &c., had failed. Our experience with it as a food for infants is not sufficient to warrant an expression of opinion; certainly well children are very fond of it.

## OFFICE OF SECRETARY OF N. C. BOARD OF HEALTH.

The following is a list of counties that have complied with the Board of Health Law passed by the last General Assembly to this date, giving the name of Superintendents of these counties :

COUNTY.	NAME AND POST OFFICE OF SUPERINTENDENT.
Alleghany .....	Dr. John L. Smith, Sparta.
Brunswick .....	" F. W. Potter, Smithville.
Buncombe .....	" W. L. Hillard, Asheville.
Cumberland .....	" W. C. McDuffie, Fayetteville.
Cabarrus .....	" F. M. Henderson, Concord.
Catawba .....	" Jas. R. Campbell, Newton.
Cleveland .....	" J. C. Gidney, Shelby.
Columbus .....	" M. R. Morrison, Whiteville.
*Craven .....	" Charles Duffy, Jr., Newbern.
Duplin .....	" J. D. Roberts, Magnolia.
Edgecombe .....	" A. H. McNair, Tarborough.
Franklin .....	" E. S. Foster, Louisburg.
Greene .....	" W. C. Galloway, Snow Hill.
Guilford .....	" B. A. Cheek, Greensborough.
Granville .....	" J. Buxton Williams, Oxford.
Halifax .....	" Isaac E. Green, Weldon.
Henderson .....	" J. L. Edgerton, Hendersonville.
Iredell .....	" Thomas E. Anderson, Statesville.
Johnston .....	" R. J. Noble, Selma.
Lincoln .....	" J. M. Lawing, Lincolnton.
Macon .....	" J. M. Lyle, Franklin.
Mecklenburg .....	" Hillory M. Wilder, Charlotte.
*Martin .....	" A. Hassell, Williamston.
New Hanover .....	" J. C. Walker, Wilmington.
Onslow .....	" W. J. Montfort, Jacksonville.
Pender .....	" W. T. Ennett, Asheton.
Pitt .....	" W. M. B. Brown, Greenville.
Person .....	" J. T. Fuller, Roxborough.
†Polk .....	" J. G. Waldrop, Columbus.
Robeson .....	" R. F. Lewis, Lumberton.
Richmond .....	" J. M. Covington, Rockingham.
Rowan .....	" J. J. Summerell, Salisbury.
Stokes .....	" L. H. Hill, Germanton.
Sampson .....	" C. Tate Murphy, Clinton.
Tyrrell .....	" A. C. Alexander, Fort Landing.
Union .....	" Isaac H. Blair, Monice.
Wake .....	" James McKee, Raleigh.
§Watauga .....	" Wm. B. Council, Boone.
Wayne .....	" M. E. Robinson, Goldsborough.
Warren .....	" Geo. A. Foote, Warrenton.

\*Correspondent. †Dr. Hassell is not a licentiate, and therefore is only recognized as a correspondent. ‡Correspondent. §Correspondent.

Some counties have formed Boards of Health and no notification has been made at this office. It is earnestly desired that the organization be completed in every county in the State. Necessary blanks and instructions are sent promptly. At present, the collection of vital statistics will be confined to causes of deaths. Prompt notification of the occurrence of Diseases Dangerous to the Public Health is urged.

The attention of County Superintendents is called to the following circular :

*To the County Superintendents of Health :*

In reply to questions frequently received by letter, as to the duties of County Superintendents of Health, the following general items of information are given :

THE DEATH RATE.

Preliminary to all work, the death rate should be carefully registered. It will be impracticable for the Superintendent to know, personally, of deaths and their causes in his County ; and in order to aid in the collection of these statistics, Memorandum Books are furnished for distribution, not only to members of the County Board of Health, but also to all practitioners of medicine in the County. In addition to this, No. 6, Death Certificate is furnished for distribution. In some sparsely settled counties deaths occur and there is no attending physician to give the certificate. In such cases it is best to send a blank to the officiating minister, as an unprofessional record is better than the failure to get the return.

DISEASES DANGEROUS TO THE PUBLIC HEALTH.

When such diseases occur, all diligence should be used to make early enquiry as to the origin of the first case, and prompt means adopted to quarantine them according to Section 9 of the Health Law. The physicians' and Householders' Blanks are furnished for distribution to physicians and intelligent householders, that all items necessary to complete the history of the invasions of the diseases mentioned may be investigated and written up.

MEDICO-LEGAL POST-MORTEM EXAMINATIONS.

With a view to uniform system for investigations under this head, a pamphlet containing minute directions, founded upon the German Law of 1876, has been prepared, and it is earnestly desired that the returns of examinations will be made complete.

## BLANK "B" RETURNS.

The blanks issued are intended to be returned annually. A careful reading of it will show the scope of the observations necessary to carry out the design. The work could be entrusted to the members of the County Board of Health from the different townships, to whom a blank may be issued with explanations. The advice of the City or County Surveyor in the general report would aid the more accurate composition of the report. To elucidate the topography, sketch-maps of townships would be highly esteemed by the State Board of Health, with an ultimate view to publication. If these reports are fully made, the labor of making a sanitary map of the State will be materially lessened.

## DRINKING WATER.

By consultation with Professor Ledoux, the Chemist of the Board, a plan has been agreed upon, which will enable him to make for the Board an examination of the drinking waters in the State. The Secretary especially desires the coöperation of Superintendents of Health in this work. It is desirable that several specimens of drinking water should be selected from every County, keeping always in view the necessity of having representative specimens, that a general idea may be obtained of the condition of wells and springs in a given neighborhood, town or city. Specimens recommended by Superintendents will have early consideration from the Secretary. In every case the packing must be done in accordance with Dr. Ledoux's circular, and the freight expense borne by the applicant, as no means have been given the Board for this purpose.

## VACCINATION.

It must be insisted on, that every person entering the poor-house, work-house and jail of the County shall be vaccinated by the Superintendent upon his first visit after new inmates have been received, except in such cases in which he is satisfied that the persons are already protected. Our State has been so long exempt from visitations from small-pox that it is highly desirable that vaccination, the only certain prophylactic known, should be generously employed, that we may have continuous exemption. A pamphlet is in preparation on this subject, which will put before Superintendents much of the neglected literature of vaccination brought down from the



Jennerian times. Vaccine will be furnished according to the provisions of Section 11 of the Health Law.

#### ABATEMENT OF NUISANCES.

In proportion to the diligence and intelligence with which the County Superintendent carries out Sec. 10 of the Health Law, will greatly depend the sanitary condition of towns. Blanks are issued for the purpose of notification of nuisances, and will be furnished on application.

Superintendents of Health should furnish, as soon as practicable, a complete list of the members of the Board of Health in their County. This only includes those who are actually present at the meeting of organization, or who connect themselves with the Board afterwards. To such members will be sent all the printed matter issued by the State Board, and their assistance and coöperation is earnestly desired.

#### PERMITS FOR BURIAL.

It will promote the accuracy of mortuary statistics if the County Boards of Health will use their influence to have a rule made by the city corporation and cemetery associations, forbidding the burial of any person until a certificate is given by the last attending physician of the cause of death. This plan is largely adopted already, and is not considered burdensome by any.

Letters of enquiry upon any matters connected with the work of the State Board will be promptly answered; and suggestions looking to the advancement of the interests of the North Carolina Board respectfully solicited.

THOMAS F. WOOD, M. D.,  
Secretary North Carolina Board of Health.

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*Valerianate of Quinine.* There is really no valid evidence in favor of this drug. Indeed Gubler has gone so far as to say that the action of valerianic acid is positively antagonistic to that of quinine, and that the only reason why the compound is not perfectly inactive is that it becomes decomposed in the body, and the stimulant effects of the acid passing off rapidly, the quinine is enabled to assert its unchecked influence on the organism.—*Phillips' Materia Medica*, p. 227.

## BOOKS AND PAMPHLETS RECEIVED.

Sexual Neuroses: By J. T. Kent, A. M., M. D. St. Louis: Maynard & Tedford, Printers and Binders. 1879. Pp. 144. From the Author.

Proceedings of the Louisiana State Medical Association at its second meeting. Held in the city of New Orleans, April 9th, 10th, and 11th, 1879.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-First Annual Session. Held at Baltimore, Md., April, 1879.

North Carolina Board of Health. Circular on Ventilation, Drainage, Drinking Water, and Disinfectants. State Printers, Raleigh. 1879. Pp. 14.

The American Journal of Electrology and Neurology. Edited by John Butler, M. D. Vol. 1. No. 1. New York: Bœricke & Tafel, 145 Grand Street.

A Few Well Established Facts in Connection with Squint. By Julian J. Chisolm, M. D., Reprint from Trans. Med. and Chirurg. Faculty of Maryland. 1879.

Seventh Annual Report of the Board of Health of the city of Boston. For the year ending April 30th, 1879. Boston: Rockwell & Churchill, City Printers. 1879. Pp. 52—with maps.

Transactions of the Twenty-Sixth Annual Meeting of the Medical Society of North Carolina. Held at Greensborough, May 20th, 21st and 22d, 1879. Jackson & Bell, Wilmington, N. C. 1879.

Materia Medica and Therapeutics. Vegetable Kingdom. By Charles D. F. Phillips, M. D., F. R. C. S. E. Edited by Henry G. Piffard, A. M., M. D. New York: William Wood & Co., 27 Great Jones Street. 1879.

Physiology and Histology of the Cerebral Convulsions, Also Poisons of the Intellect. By Charles Richet, A. M., M. D., Ph. D. Translated by Edward P. Fowler, M. D. New York: William Wood & Co., 27 Great Jones Street. 1879. Pp. 170.

The Thermantidote. An instrument for preventing the evil effects of heat from Paquelin's thermo-cautery while operating in deep cavities. By H. P. C. Wilson, M. D. Baltimore, Md. Reprint from Trans. of the Medical and Chirurgical Faculty of Maryland.

Annual Chemistry or the Relations of Chemistry to Physiology and Pathology. A manual for medical men and scientific chemists. By Charles Thomas Kingzell, F. C. S. London: Longmans, Green & Co. 1878. Pp. 404. Through H. Kimpton, 82 High Holborn, London.

Reports of the St. Louis Medical Society on Yellow Fever, consisting of the report of the Committee Appointed to Inquire into the Relations of the Epidemic of 1878 to the city of St. Louis, &c., &c. By W. Huston Ford, A. M., M. D. St. Louis: George O. Rumbold & Co. 1879. Pp 320—vii.

# NORTH CAROLINA MEDICAL JOURNAL.

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M. J. DeROSSET, M. D.,  
THOMAS F. WOOD, M. D., } Editors.

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## ORIGINAL COMMUNICATIONS.

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### NOTES ON LOW-TEMPERATURE OF THE BODY.

By J. R. L.

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#### PULMONARY APOPLEXY WITH LOW-TEMPERATURE—RECOVERY.

Making choice of the better known term pulmonary apoplexy rather than pneumorrhagia to indicate a condition of sanguineous extravasation into the parenchyma of the lungs, I make record of the following case because of its comparative rarity :

*Case I.*—J. S., aged 38. swarthy complexion, spare, a native of Wilmington, has had repeated attacks of malarial fever. His skin is markedly pigmented thereby. He has frequently been treated for "liver complaint," he says.

On the night of the 3d of June I was called to see him, and his condition was as follows : He was tossing himself from side to side on the bed, breathing with great difficulty. Respirations 25 a minute, pulse 100. He was expectoring at very short intervals, large mouthfuls of a frothy substance, slightly tinged with blood. The chamber into which he had expectorated was filled with the

frothy matter discharged during the afternoon. His temperature was as follows :

At 8½ o'clock it was 35° C. (about 95° F.) ; at 9 o'clock it had fallen .4° C. ; at 9½ it fell additional .7°, remaining steadily at 34.4° C. —94° F., until 3 o'clock the next morning.

During all this time he was unable to swallow by reason of the dyspnoea and the almost constant presence of frothy fluid in his throat, although able to utter audible ejaculations frequently. He expressed himself as burning up, and had a nurse steadily fanning him. His entire cutaneous surface was moist with sweat, and there was cadaveric coldness.

I listened with great anxiety to his chest to make out what was going on, but there were such tumultuous râles, and violent agitation of the heart, and hurried costal movements, that nothing could be made out.

The pulse at no time rose higher than 105, and was of satisfactory volume.

My prognosis expressed to the family was of the gravest character, notwithstanding the pulse did not indicate imminent danger.

I administered two drachms whiskey hypodermically, and shortly after in the same way 30 minims of fluid extract of ergot, repeating it twice. He still complained of pain in the chest, begging piteously for relief. Against my better judgment, I gave him six minims Magendie's solution of morphia, when shortly after, the expectoration became less copious and more viscid, finally ceasing ; he became tranquil and the sweating ceased, and but for the integrity of the circulation, I would have considered his calmness, and the coldness of surface and low internal temperature (94°F.), as the precursor of early death.

June 4th, 10 o'clock A. M. Found the patient quiet, and breathing tranquilly, 18 to 20 a minute. His pulse was barely 85. Temperature 98.4°. There was dullness between the 3d and 4th rib and sternum covering an area of an irregular figure, whose long diameter was about two inches. There had been a little expectoration, which was of a viscid fluid streaked with blood. His complexion was still bad, and his face considerably puffed. There were moist râles over a portion of the superior lobe of the left lung.

June 10th. Patient has greatly improved, dullness considerably

bettered ; he is short-winded. There is no important defect in the heart's action. The sphygmograph (Pond's) gives occasionally a truncated apex—two or three in as many observations. He has resumed light work.

*Case II.*—June 30th. Called several miles up the Cape Fear to see S. F. P., 38 years of age, white, native. He had been suffering with cholera morbus all night, and was now complaining of cramp in his bowels. He was vomiting freely all the water he took. Nothing had remained on his stomach for several hours, but there had been no intestinal evacuations for more than an hour. When I first saw him it was 10 o'clock, his temperature was then 33.2° C. (92° F.) I recognized the algid stage of malarial fever, and injected  $\frac{1}{2}$  grain of morphia, following it with 20 grains of quinine partially dissolved or suspended in strong vinegar. This was preliminary to a more thorough diagnosis, a measure so frequently resorted to by those of us used to seeing pernicious malarial fever.

A more thorough examination showed that his fingers were shrivelled, his pulse was almost imperceptible, but when it could be distinguished, did not go beyond 88. Deafness was well-marked, respiration shallow, eyes lustreless. Patient restless and anxious, complaining of internal heat, refusing to allow bed-clothes on him.

I ordered hot bricks and bottles to be placed around him, and had him covered with quilts.

At 11 o'clock the thermometer indicated 34.2° C. (93.4° F). All pain was gone ; he slept a few minutes at a time with his eyelids opened, the whites of his eyes showing. His deafness has diminished, his pulse is a little stronger, but still 88. His breathing is deeper, his voice is stronger ; (the patient has had dysphonia for many years) his stomach is very intolerant, retaining fluids only a few minutes.

At 12 o'clock, I injected additional 20 grains of quinine prepared with vinegar as before, (no other solvent at hand).

I left centigrade thermometer with the patient, with directions for it to be applied at 4 o'clock, and the result to be sent to the city to me by telephone. At 5 o'clock the message came that the patient was better, but the thermometer was at 32° C.=about 90.6° F.\* This was an error which was probably made because he had

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\*I have no convenient way of estimating this as I write.

been eating ice, and did not allow the instrument to remain long enough in the mouth, although the nurse declared the observation was taken from contact in the closed mouth for five minutes.

*July 1st.* At 8½ o'clock the temperature taken carefully twice with centigrade thermometer was 36°=96.8° F. Pulse 88, not much stronger. He was still vomiting; his fingers were plumper than the day before; eyes had regained some of their lustre; tongue heavily coated with saburral fur. Hypodermic injections of quinine in hydrobromic acid were administered, in all forty grains at this visit.

[NOTE.—There were no resulting sores from these many injections of irritating substances. It was formerly my standing reason for not employing hypodermics of quinine.]

*July 3d.* Temperature returned to normal standard, convalescence being fairly established. The patient was rapidly restored to health.

*Case III.*—Mrs. F. had for several days been suffering with intermittent (quotidian) fever. I directed cinchonidia sulphate to be given—2 grs. every hour until six doses were given. Shortly after the last dose was taken I visited her, and found from the attendants that she had twice fainted. The thermometer indicated 35.4° C. (96.2° F.) Brandy was given, and in one hour the temperature went up to 39° C. (about 98.6° F). The hysterical element was predominant in this case.

The phenomena of low temperature have not been carefully observed, and the past records are singularly at variance.

Kingzett says in his "Animal Chemistry" (p. 180) "In cholera the body temperature sinks as low as 67° F. although carbon and hydrogen in the blood is oxidized in the usual manner and the products evolved."

Dr. Thudichum says (Aitken's Practice, Vol. 1, p. 623) that in cholera the temperature falls steadily from normal to 5.4° F. or 7.2° F., and in most cases very rapidly; but this would only bring the temperature down to about 93° F. to 91° F. From the same volume above quoted, we learn that Drs. Adams and Welch report as the results of their observations in Malta during the epidemic of cholera (1864) that 15° F. below the normal—about 83° F. was the lowest degree attained.

In my "Remarks on Continued Low-Temperature"\* I had not

\*North Carolina Medical Journal, Vol. 2, p. 238.

seen the temperature run down lower than 95°, but in Case II, the point attained was 92° F., a condition much resembling cholera as regards the stage of collapse. None of these citations seem to bear out Kingzett's statement, although I write from a clinical standpoint rather than from a knowledge of the records of thermometry.

The question would naturally occur in our observations of low temperature, "What is the lowest point, beyond which we must give our patients a fatal prognosis?" In cholera, according to Thudichum, the lowest temperature observed in any case which recovered was 92.8° F., whereas in my Case II—92° F. was reached, and the patient recovered.

In Case I, the hypodermic injection of whiskey was not successful, whereas the morphine injection caused an elevation succeeding the administration of it promptly enough to fix it in my mind. And in Case II, I was prompted to use the hypodermic injection for many reasons—the diarrhoea, the nausea, the cramp, all demanding it—this administration also resulting in rise of temperature. It is fair to say that the hypodermic use of quinine and the hot bottles may have had an equal share in bringing about this result.

In Case III quinine was substituted the succeeding days, and in the same quantities, but no such condition of lowered temperature was observed.

I am quite aware that fragmentary records of thermometric changes should not settle in one's mind any "principles" or "laws," but should stimulate us to a habitual use of the thermometer.

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## DIABETES MELLITUS IN AN INFANT.

By J. R. L.

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X, aged five months, attracted the attention of his parents by his frequent and copious discharges of urine. He was restless to a degree not to be accounted for by the irritation and discomfort caused by the frequent wetting of his diapers.

The little patient had been fed with condensed milk for two months previously, in addition to the mother's milk, as the latter had not been deemed satisfactory in quality, and he was apparently thriving upon this diet.

His urine was presented to me for examination, a few drachms having been wrung from the diaper for this purpose. The symptoms all pointed to saccharine diabetes, notwithstanding the extreme rarity of this disease in infants, and Trommer's test revealed the presence of sugar in large quantity. That is, to three drachms of urine, thirty minims of sulphate of copper were added, and a drachm of liquor potassæ was added, the mixture being boiled in a test-tube and allowed to cool, the characteristic reddish-brown precipitate resulted. The specific gravity was not taken, as the amount of urine procured was so small.

This brings the case up to August 29th, on which day the child was weighed, and was found to weigh 11 lbs, 2 ounces.

The attending physician directed a change of diet from condensed milk, to fresh cow's milk, diluted with barley water, in addition to the mother's milk. The barley was not continued regularly, and after a short time given up entirely.

On the 2d of September the urine was again examined by Trommer's test revealing no signs of sugar. The child weighed on this day, 11 pounds and 6 ounces.

On the 9th day of September the urine was again tested as before, but no sugar was detected. To this date the child had increased to 12 pounds in weight.

No starchy food had been given him at any time, nor was any other diet permitted by the parents than that mentioned.

A prominent symptom in his case has been the small amount of sleep he gets. The little fellow is awake at 6 o'clock every morning and passes the entire day without sleep, going to sleep after much nursing generally at 10 o'clock at night. Narcotics of every kind have been studiously withheld, and indeed any artificial method of producing sleep.

Belladonna, was given, however, on the 29th day of August, at the suggestion of the physician to arrest the flow of urine, his diagnosis being that the glucosuria was due, not to ingestion of starchy food, or transformation of saccharine matters ingested, but



to another condition referable to the brain and nervous system, as not yet located. The dose of belladonnâ was as follows: On the 29th,  $\frac{1}{2}$  drop of the tincture was given three times a day. The next day it was increased to a drop, and in two days thereafter it was increased to two drops. No dilatation of the pupils resulted. Diuresis was diminishing day by day, and continued to diminish after the belladonna was left off.

September 20th. The flow of urine for the past week has not been as large as formerly, and specimens for examination showed no reaction for sugar. The child is developing symmetrically, although he is not plump.

It is evident from this case alone, although there are other and sufficient proofs found in the literature of the subject, that the glycogenic function of the liver is subject to the influence of the nervous system, and in particular to the influence of a region of the cerebro-spinal centre which is already known as the vaso-motor centre, or at least a part of that region. (Foster). In the experiments made upon rabbits to produce artificial diabetes, the sugar comes from the glycogen of the liver, those animals yielding the greatest quantity of sugar who have been better fed, and whose liver is richer in glycogen.

The experiment referred to in the above paragraph is by irritation of the diabetic centre with a pointed instrument. It is well to bear in mind in this connection that irritation continued beyond the limit of a certain short time does not cause saccharine urine continuously, and that while mechanical injury of the thoracic ganglion will produce diabetes, no such effect is produced if the ganglion be carefully removed, or if its connection with the spinal cord or with the remainder of the thoracic chain be completely divided—(Foster's Physiology, p. 338.)

Artificial diabetes is produced in other ways. It is notably present as a symptom of curare poisoning: it is similarly present in poisoning from carbonic oxide: it is produced by injecting defibrinated blood into the mesenteric vein; it is produced as an effect of inhalation of puff-ball (*Lycoperdon*) smoke; by sufficient doses of morphia, and by nitrite of amyl. But whatever may be the cause of diabetes, the presence of sugar in the urine is due to an excess of it in the blood. It is extremely probable that the sources of the

excess may be various, and hence that several distinct varieties of diabetes may exist. (Foster.)

In reviewing the physiological investigations of the cause of diabetes by several writers, an English writer,\* (Kingzett) says: "In spite of all the researches which have been made on these vexed questions, we are left without 'a plausible theory or a rational treatment of diabetes.'" (Thudichum.)

Organic diseases affecting the brain and spinal cord, external injuries to the brain, and certain influences on the sympathetic nervous system, are known often to precede diabetes, and perhaps to lead to it, and these observations supplemented by Bernard's famous, and Pavy's skilful experiments, would seem to indicate that diabetes, as we recognize it in its chief characteristic (the presence of abnormal quantities of sugar in the blood and urine), represents a factor of interference of the proper functions of the blood, as governed solely by the nervous system. It becomes therefore of great and necessitated importance, that research should be directed to the chemical and anatomical investigation of the brain and other nervous centres in cases of death from diabetes mellitus.

This is the earliest case of diabetes on record, perhaps, and the correctness of the test may be brought into question for this reason. I had no experience with other tests for sugar, and employed this one because I had formerly had satisfactory results. There is no doubt in my mind about the truthfulness of test, nor did a medical friend, the attendant of the patient, express any when the precipitate was shown him in the test tube.

## TWO CASES OF VESICO-VAGINAL FISTULA—SUCCESSFUL

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It is hardly necessary at present to record all of our cases of this accident—considered irremediable until the perseverance and the

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\*Animal Chemistry. 1878. Page 119.

genius of Sims reversed the usual verdict. In order to encourage others in such efforts a few brief notes will be furnished for your Journal, of two cases in which the results were favorable.

*Case 1.*—A colored woman, æt. 22, after confinement with her second child, came under our care with a simple laceration of the vesico-vaginal septum which was in a very favorable condition for an operation—being not more than an inch in length and situated quite near the external orifice. The edges were thoroughly freshened by the aid of the tenaculum, with the knife and scissors. Five silver wire sutures were inserted, quiet was enjoined and a complete cure was effected without further trouble.

*Case 2.*—This case was sent to the city hospital by Dr. Young, of Beaufort, December, 1878. She was 40 years of age, and was found to suffer from a constant escape of urine, caused by a rent between the vagina and bladder,  $1\frac{1}{2}$  inches below the os uteri. The rent was curved and much more difficult to reach than in the first case. After a tedious operation of more than two hours duration, under chloroform, we succeeded in inserting five silver wire sutures. Upon examination after 12 days, when the sutures were removed, we found that her power of retention was almost complete, but that a small opening, two or three lines in length, still existed at the superior margin of the injury. At a subsequent operation this was closed and she was discharged cured.

In the last case the incomplete success of the first effort was caused by the difficulty of freshening the margins of the rent at a single point where there was a flexure of the vaginal walls;—and neither the knife or scissors could act efficiently in denuding the mucous surfaces.

By changing the position of the woman in the second operation and having a better light, success was achieved. Sims' position and his speculum were employed in each case. The freshening was extensive, the needles were deeply inserted and the wires were carefully twisted.

In our limited experience and after several other unsuccessful efforts, we found a very short, slightly curved needle the best to be employed. This should be very large at the eye; for thus we avoid the impediment caused by the difficulty of drawing the wire through when threaded and necessarily doubled upon themselves. A needle large at the but, or eye, makes way for the double wire; and the

increased size of the opening made by it is in no way detrimental. To interpose a thread between the needle and the wire does not obviate the difficulty, as the wire must still be doubled, and the thread knotted.

In a case of extensive laceration of the perineum in a lady, a primipara, extending to the margin of the anus, an operation performed a half hour after the delivery, also with five silver sutures, proved completely successful. The plan of giving opium for ten days subsequently, we found objectionable on account of the difficulty of relieving the constipation and its ill effects upon the general system. The authorities, however, disagree upon this point.

Never having met with a single case of the above character before, strange to relate, there have been repeated instances of it in our hospital experience within the last 14 months among the colored patients.

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*Brain Volume and Brain Power.*—The cranium of Descartes, says *Nature*, is often adduced as an exception to the general rule that a great mind requires a large brain. This statement seems to have rested on no exact measurement, and Dr. Le Bon resolved recently to test its accuracy. The result is that he finds the cubic capacity of Descartes' skull to be 1,700 centimetres, or 150 centimetres above the mean of the Parisian crania of the present time. At the same time Dr. Bordier has recently found the average capacity of the skulls of 36 guillotined murderers to be 1547.91 cubic centimetres, the largest reaching the enormous figure of 2,076 cubic centimetres.

It is a well-known fact that the size of the skull is no criterion of the value of its contents—those of Voltaire and Sir Isaac Newton to-wit: Nor is this to be wondered at, considering that the grey matter of the convolution is the seat of the intellect, and may be relatively deficient when the rest of the cerebrum is very large, and *vice versa*.—*Medical Press and Circular*.

## SELECTED PAPERS.

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### ADDRESS IN SURGERY ON THE PREVENTION OF BLOOD-POISONING IN THE PRACTICE OF SURGERY.

By WM. S. SAVORY, M. B., F. R. C. S., F. R. S.,  
Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

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[*Concluded from page 191.*]

#### DRAINAGE-TUBES.

Then you see, as a rule, I do not employ drainage-tubes. Now, the employment in routine of drainage-tubes is so fashionable; they are just now, and for some time past have been, so highly in favor with surgeons in general, that I must ask your indulgence to bear with me while I venture to criticise their action. The purpose for which they are so habitually employed is undoubtedly clear and sound enough: to avoid the accumulation of fluids in wounds. These fluids, when they have become changed, are the most common and active source of mischief; and the less lodgment there is of these in a wound, the safer it is for the patient. But is there no means than this of providing for the escape of such fluids? You will perhaps gather, from what I have already said, that I, for one, believe there is, with ordinary care and skill. I think if the edges of a wound be not allowed to close before the deeper parts, and that by position the outlet be made sufficiently dependent, as a rule, all dangerous accumulations may be avoided. There are instances, however—exceptional, I think, after operation, but of more frequent occurrence in other cases—in which the insertion of something between the edges of a wound, or deeply into its substance, or throughout, may be very useful; and then for the most part I should employ a strip of thin guttapercha or some threads of carbolized catgut. I am most disposed to insert something of this sort where I expect the process of repair to be least direct, where the wound is large and irregular, and where the secretion is likely to be profuse and rapid. For example, after the removal of a breast in a very fat person, I should probably, at one or two parts, insert a narrow slip of guttapercha. But why not, then, do this in every case? Well, I think there is no material objection to it; and where other-

wise the progress of the wound cannot be watched in a trustworthy manner, it is better to adopt it. But I repeat that, as a rule, in the management of the simpler wounds, under the care of a surgeon who knows his business, there is no need of it. But, in my mind, there are positive objections of weight to the employment of drainage-tubes. At first sight, indeed, for their chief purpose they are very plausible instruments; but do they after all effectually discharge their duty? Does the greater portion of the fluid which forms in a wound where they are as a rule escape from them? From my own experience I should say, No; and I do not think I am at all singular in this observation. It has been more than once publicly pointed out (and I am sure the fact must have been often witnessed) that, when a drainage-tube has been withdrawn from a wound, a gush of fluid will follow it, and almost always some fluid, more or less, trickles after it—more than enough to provoke mischief if it be poisonous and can pass into the blood. In any case, the fluid which forms in a wound will flow downward to the deepest parts, and not upward, unless under pressure; and if from the position of a wound the aperture or apertures be at the dependent part, it will escape without tubes. If it be not, if there be a cavity within deeper than the outlet, what power, I should like to know, have drainage-tubes to draw it upward out of this? I think, then, if the position be not satisfactory, and the vent sufficiently free, they are needless; if the position be not satisfactory, they are useless. I say, therefore, as a rule, drainage-tubes are not effectual instruments for their chief purpose. But, furthermore, their presence is often directly and actively mischievous. They are foreign bodies in a wound. They act, of course, as foreign bodies in almost all circumstances do; they irritate; they provoke suppuration and the formation of fluids. Those who are accustomed to witness with complacency the escape of fluids along drainage-tubes hardly reflect that the drainage-tube has been a cause—perhaps the prime cause—of the fluid which flows out. When I see these tubes moved to and fro in a wound with the escape of pus, I am forcibly reminded of what I have often seen in former years, the action of setons. A drainage-tube is, in fact, a seton. Even when they are retained only for a short time, not long enough to induce further mischief, they are fatal to the chance of direct union of a wound. And is this,

the best of all results, to be now altogether given up as a visionary idea? Is union by the first intention to become a thing of the past? When I see, for example, a fatty tumor, small, or of moderate size, removed from under the skin, and then the edges of the wound stitched closely together over a drainage-tube lodged throughout its length, it seems to me simply idle to talk of principles of surgery. That such wounds do at length close in spite of this treatment, I know; but I think I know also that they will heal more quickly and kindly, directly without disturbance, if they are simply closed in the way I have already alluded to. It is surely very rare indeed for such wounds, if thus naturally treated and duly watched, to give rise to any anxiety or trouble. For my part, I do not think the risk, such as it is, at all lessened by insisting on a more circuitous process of repair.

I do not contend that drainage-tubes ought never to be employed. In exceptional cases, I believe the advantage outweighs the evil of their use, as, for example, in the after-treatment of empyema, where they are very useful in enabling us in a far more satisfactory manner to wash out the chest; and this, by the way, is an advantage often claimed for them, and with some force, in other instances. But I do not believe there can be usually much difficulty in washing out the interior of a wound without the necessity for that purpose of the permanent insertion of a drainage-tube.

And withal a word or two on behalf of that much abused application, a common bread-poultice. Its absolute and relative value in surgery can be determined only by experience; and, if the surgeons who condemn it have done so only after having given it a fair trial, then all I can say is that their experience on this subject is very different from mine. Having many years ago, like, I suppose, most surgeons at one time or another, been prejudiced against poultices (for, if not skillfully made, they are ugly and clumsy things), I have more than once cast them aside in favor of some other application; but again and again I have been driven back to their use by the plain fact, as it appears to me, that they fulfil certain conditions better than any of their rivals. I do not undertake to explain why they are thus excellent. I find certain qualities possessed by them in an eminent degree; but to what precise extent these are instrumental in the result I cannot say. A well-made

bread-poultice (which I make bold to suspect some of you have never seen) preserves ample moisture and equable warmth ; it is everywhere very soft, and adapts itself with singular uniformity to all irregularities of surface. In my experience this homely article far more frequently draws from the patient the word "comfort" than any other form of dressing. "Yes, that is comfortable," is a familiar expression after the application of a poultice. Poultices, of course, like all other appliances, are liable to abuse ; and I think that years ago they lost favor chiefly on account of the reckless way, as mere routine, in which they were employed, the faulty manner in which they were too often prepared, and the length of time during which they were allowed to remain unchanged. But I venture to repeat that, when applied in appropriate cases, they give, so far as my experience goes, more comfort to the patient and satisfaction to the surgeon than any other substance. Moreover, in certain cases of unhealthy wounds and of foul discharges, they become a most convenient vehicle for the use of charcoal and other agents ; and I for one, in spite of all our present proud array of antiseptics, should be sorry to lose altogether the help of the old-fashioned charcoal-poultice.

#### LISTER'S METHOD.

But now I must pass on to speak of that particular plan of practice which aims at unconditional security—the plan the purpose of which is to exclude all risk of blood-infection by the rigid exclusion of living germs ; notably of that particular method which has been introduced by Lister, and at present known everywhere as Lister's method. Now, the relative value of this method of treating wounds may be tried—should be tried, I think—first by the facts which have been ascertained in regard to it ; and, secondly, by the arguments which can be advanced for or against it.

First, then, with regard to actual facts. Are there any trustworthy statistics to show that the results hitherto obtained by Lister's plan are better than the best results obtained by any other method ? I think most will admit that this is a question of considerable weight. Well, I take, for instance, our hospital statistics, to which I have already referred, on the one hand, and I seek in vain for any parallel results on the other ; and, while this is so, I shall consider I am justified in the conviction that hitherto the best



results have been achieved by the simpler method. And I must add that one seeks in vain for statistics of any kind from sources from which I submit we are entitled to expect them. Why are such statistics withheld? Are they not worth the trouble of collection? And, if they have been collected, why are they not published? But let this pass. I say I know of no results from Lister's method like those I have given. Indeed, many of the statistics which have been so triumphantly presented to us make but a sorry figure by the side of the best, and they admit only of excuse by comparison with former results from the same place. And here I cannot help thinking that confusion and fallacy prevail on this matter; that, to answer this prime question, old and new results are constantly compared. Some hospitals, in which for several years the results have been much more unfavorable than those which can now be shown, have adopted this method, and the contrast has been striking; that is, the old and new statistics of the same institution have differed widely. And this shows that a great improvement has been wrought there by the adoption of Lister's method; but it by no means shows, as so many seem to accept that it does, that the best results of all can be obtained by this plan. For the fact is, conclusions drawn from comparisons of former and present practice at the same hospital are, in all probability, charged with this fallacy; that almost everywhere, from the attention which has now been for some time past directed to the subject, and from the greater care and caution exercised, the mortality after injury and operation has been considerably reduced. I might give you illustrations of what I mean in figures which have been published in triumphant demonstration of the superiority of this method. What do they actually show? Why, that while the adoption of Lister's plan has effected a vast improvement in the death-rate of a particular institution, the results obtained by it are still far below those which have been obtained by other methods. The contrast between the results of Lister's plan and the records of what I would fain hope may now be called former days is most marked where the previous mortality was highest; and it is easy to understand why the most enthusiastic reports in its favor come from those places where the sanitary conditions are worst. Beyond all question, I should say, in too many instances, it has proved far better than that which it has replaced :

but to conclude from this that it is better, or in its results equal to every other plan at the present time adopted, is to set the simplest rules of logic at defiance, to foster error and confusion. No ; Lister's plan must be tested (it would be an insult to its author to propose less), not by contrast of former with present statistics, but by comparison of it with the best results which are now obtained otherwise.

But on this question of actual fact I must remark farther that, from observation of the method in cases in my own hands or under the care of my colleagues, I am impressed with the conviction that, as a rule, wounds heal more satisfactorily, more directly and quickly, under simpler plans. But an error of a like kind prevails here. An operation is performed in a sufficiently simple and straightforward case ; this mode of dressing is adopted ; all goes well ; the wound heals ; and the result is forthwith registered as demonstrative. The majority of wounds heal very well under various plans—heal for the most part, in spite of many hindrances, if these do not exceed certain limits ; and the majority of wounds heal under this particular plan. But I need hardly observe that the great question at issue is not at all touched by this kind of evidence.

I ought, however, to allude to a fact of which I, and probably many others, possess some evidence, that Lister's method has been both charged and credited with results that do not belong to it. A satirist might, indeed, have found ample scope for indulgence during the last two or three years in the treatment to which wounds have been subjected under the auspices of this plan. Very often, I should say, they have been converted into germ-traps and hot-beds for the cultivation of bacteria. But I repeat my conviction, that when the plan is actually carried out, as a rule, it delays the repair of wounds.

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To the next point. This particular plan of dressing wounds is founded on the accepted fact that the germs in the air are the sole cause of blood-infection, and its purpose is the prevention of this by their rigid exclusion or destruction. Is then, let it be asked first of all, this purpose by this means fulfilled ? Does blood-poisoning ever occur in this practice ? In point of fact, it does from time to time occur, and sometimes proves fatal. Every one is aware,

of course, of the answer which is given to this—that it is due to the mode of dressing being imperfectly carried out ; to some flaw in the management of the details. To which, again, it may be replied that, although the contrary does not, from the nature of the case, admit of proof or actual demonstration, such a catastrophe has undoubtedly occurred, and does still not unfrequently occur, in skillful and experienced hands, in the practice of excellent surgeons, enthusiasts in this method. And if this be so, it practically, you see, amounts to the same thing. If the plan be only ideally perfect, and liable, in spite of such care and dexterity, to fail in practice, it still misses its aim. Indeed, here is the critical question : If it be not absolutely, unconditionally protective, in what relation does it stand to other methods ? Why, so far as we have facts to guide us, as I have already stated, up to this time it has not made out its case. And then, are there no possible objections to it ? It shuts out the wound from view—to my mind, no trivial drawback. The wound cannot be examined without an elaborate process of change of dressings, always involving disturbance, if not risk. And although it may be said that confidence in the safety of this plan dispenses with such need, the question again arises whether it is reasonable to give such confidence as this. But it is further urged that one can tell by other signs what is going on in the part ; that local mischief is revealed by rise of temperature or of pulse. Yes, after a while, but not until the system has been disturbed by it. I think that when a wound or injury is under ready inspection, we may detect the tendency to go wrong earlier than this ; and upon the earliest detection of such tendency I think very much may turn. I do not believe that this objection can be explained away. Then this mode of dressing very often irritates ; as the rule, more or less, sooner or later. This local irritation, as the result of their repeated action, is, I should say, one of the most annoying objections to the use of antiseptics in general. They will do this ; and although for a great end, this may, within limits, be endured as a comparatively trivial circumstance, yet it not unfrequently proves to be of more serious moment by interfering with, and so delaying, the process of repair. Thus certainly their employment in this way is not favorable to the best results of surgery in the repair of wounds by the simplest and most direct process.

But while I think it must be conceded that this mode of treatment is not favorable to union by the first intention, it is claimed for it that, when wounds close by a more circuitous route, this process is shortened and simplified. I say to this—not proven; on the contrary, that the evidence is the other way. It has been affirmed that, under this plan, the constitutional disturbance, as indicated by the rise of temperature which usually attends the repair of considerable wounds, is very much reduced in degree. I have often heard the assertion made that there is usually very little or none. I have reason to believe that many very exaggerated notions prevail in regard to the amount of constitutional disturbance attending the repair of wounds when managed otherwise. As a rule, there is more or less constitutional disturbance shown by rise of temperature during the repair of large wounds under any plan; but the evidence at present before us by no means shows that with this method it is less than any other.

Again, much has been made in this matter of the formation of pus. It was, I believe, once contended that the formation of pus is prevented by this means; and now, that the process of suppuration is very materially reduced; that it is serum or a serous fluid, rather than pus, wounds so treated pour out. Well; but when wounds have to heal by granulation, is laudable pus a cause or sign of mischief? I am not speaking of profuse and long-continued suppuration, which is really out of the question here, but of such suppuration as usually occurs during the repair of a wound. For my part, I confess I am neither ashamed nor afraid to see well-formed pus covering the surface of granulations; nay, I accept it as a very favorable sign. I am accustomed to watch it carefully, for I think, in the change of character of this secretion, we have often the first signal for good or evil, and, as a rule, the condition is satisfactory under a layer of laudable pus. I say, then, even accepting the statement, it remains to be shown that a serous speaks of a better state of things than a purulent discharge.

Then, for me at least, and for the reasons I have given, the constant and prolonged employment of drainage-tubes is a serious objection. I am convinced, I repeat, that they too often prove sources of local and general irritation. Thus I have seen a large chronic abscess opened and dressed carefully with the rigid precau-

tion of Lister's method. I have seen the patient day after day but little disturbed, with a temperature one or perhaps two degrees above the normal ; and then, at the end of a week, or of nine or ten days, I have seen all the dressing hitherto applied suddenly removed, the drainage-tube withdrawn, and a common bread-poultice applied to the now fully exposed surface. The result has been that the temperature has quickly fallen to the normal point ; and my belief is that, in more than one instance, the reduction of temperature was mainly due to the removal of the tube, which, as a foreign body in the wound, was a source of irritation.

I say, then, I cannot admit the claims of Lister's method ; because, although undoubtedly very good results are to be obtained by this practice—better ones, no doubt, than most of those which were reached in former years, or are still in many places—yet that it has not shown results superior or equal to those which have been otherwise achieved ; that it has, moreover, grave drawbacks from which simpler plans are free ; that if it fail, it is worse than useless by increasing the risk ; and, therefore, that it has not established any title to supersede all other methods in the practice of surgery.

The principle of Lister's practice is an easily intelligible, and therefore very attractive, one to the public—I mean the more educated portion of it, even to men of scientific attainments, who have little or no knowledge of clinical surgery ; for the one fact can be seen so plainly, while all other questions which are forced upon the attention of the surgeon are shut out from them.

But the principle on which it rests is a sound one ; the logical outcome of established facts. Granted most freely and fully so far as in this direction it goes. But is every other plan of treatment without principle and opposed by logic ? Let me recall your attention to some words which appear to me to be about the wisest which have been spoken on the subject. Last year, in his address, Dr. Roberts said : “ We should probably differ less about the antiseptic treatment if we took a broader view of its principles. We are apt to confound the principle of the treatment with Lister's method of carrying it out. The essence of the principle, it appears to me, is not exactly to protect the wound from the septic organisms, but *to defend the patient against the septic poison*. Defined in this way, I believe that every successful method of treating wounds will be

found to conform to the antiseptic principle. Take, for example, the other method of treating wounds which is sometimes compared in its results with Lister's method. What is this treatment but another way (only less ideally perfect than Lister's) of defending the patient against the septic poison? Because, if the surgeon succeed in providing such free exit for the discharges that there is no lodgment of them in the wound, either they pass out of it before there is time for the production of the septic poison, or, if any be produced, it escapes so quickly that there is not enough absorbed to provoke an appreciable toxic effect." Which plan, after all, takes most cognizance of all the facts before us? While it is true that the air contains germs which can so change animal fluids that if then they pass into the blood they may poison it; it is also true not only that fluids which have never been in direct contact with the atmosphere may be pent up far from the surface in various parts of the body without infecting the blood, but also that open wounds may be and are continually freely exposed to the air, yet remaining all the while healthy; the process of repair is carried on without let or hindrance, or any disturbance of the health; that fluids which bathe the surface of wounds may be saturated with the air and all it contains, and still escape before they have undergone any mischievous change; that, lastly, and not least, fluids may be changed to putridity on the surface, as in the interior, and yet not give rise to infection of the blood. In the discussion of this great question, it is too often implied, though not explicitly expressed, that if the unimpeded atmosphere be allowed to come into contact with wounds it produces mischief. And if it be said that, assuming the risk to be ever so small, why not adopt means which avoid it altogether? the answer is that it has not yet been shown that any such means exist. Blood-poisoning from wounds, though happily now in the best places extremely rare, still under whatever mode of practice followed, does occasionally occur; and so it seems to me most reasonable to follow that practice which is shown to be, on the whole, safest by its results, it being, moreover, the simplest and least objectionable in other ways. In short, it is clear enough that Lister's plan, while it deals with one cause only of danger, provides by no means absolute security against this. When seriously tested by a bad atmosphere, it has hitherto obviously left a wide margin of

mischief. Compare, for example, German and other statistics with our own. And when hygienic conditions are as favorable as possible, the risk from the single source of which this method takes heed is so far reduced that the good it can affect, beyond other measures in this direction, is not equivalent to the harm it does in other ways ; as, for example, by irritating the wound, and so interfering with the process of repair.

Observe, if you please, that I am not saying that Lister's practice is to be in every case, and under all conditions, eschewed. I can very well imagine--nay, I know of circumstances where I have no doubt it would be far safer to employ it than to run the great risk of exposure. It is preferable to a pestilential atmosphere. But I submit that, while in such places and with such arrangements, if operations must be performed or wounds treated, this, or something like it, should be adopted, it would be far better, wiser, more humane, to stop the practice of surgery altogether until these places had been made clean and reasonably pure. I refer again to the records from Germany. When we observe the rate of mortality before and after the adoption of Lister's method we are tempted to ask, What would have been the result if all possible care and forethought had been directed to the improvement of the sanitary state of the hospitals ? Why should they have been, why are they still, so far behind others in this respect ? You will remember the story of the Norfolk and Norwich Hospital as Mr. Cadge told it ; and you are not likely to forget the ghastly sketch Lister drew after his visit to some of the continental hospitals only four years since. It is the evil of this, or of any special or peculiar plan of dressing, that it tends to limit our view, and, by fixing the attention on a number of details, each of which is made of prime importance, diverts the mind from the observance and consideration of far larger questions. Yet, notwithstanding the veil which has for a time been drawn before the eyes, there are already signs that the field of vision is extending. It is now many months ago that I read of a distinguished German professor using, as he tells us, extraordinary precautions : " That on an operation morning he gets up early, and washes himself all over : that his assistants wash themselves ; and that the patient is also washed " ; and although a famous Scotch surgeon, who relates the story, adds, " Surely all

these washings are unnecessary," let us hope that, in interests besides those of surgery, the expectation at least of an operation may become of daily occurrence. We cannot, indeed, render the air absolutely or "optically" pure for the practice of surgery; but I think under fairly favorable conditions, and with the means at our command, operations may be performed and wounds treated in an atmosphere not so impure but that, on the whole, the least risk is run by the practice I have ventured to advocate.

One word farther. I have spoken without reserve—as I take it I was bound to do if I spoke at all—of this now famous plan of treatment. By this I think I have shown the truest respect for the author of it. If I esteemed the practice of Professor Lister less, it would have been easy to offer him the homage of flattery, to congratulate him on his renown. It appears to me that I have evinced more regard for his authority, and placed higher estimate on his work, by study to the best of my ability the method he has introduced; by not expressing an opinion adverse to it in public, or from a position of responsibility such as this, until my conviction had grown clear and strong; and then I think I best mark my appreciation of his purpose by thus speaking out freely and fully. And though I am thus—not on principle, but in practice—opposed to him and many others whose ability and knowledge I admire and respect, I know very well that on a greater issue—the advance of surgery—we are heartily together; and, with unfeigned diffidence of my own judgment, I have yet farther consolation in the assurance that if I be in error, these words of mine, even from this place, will prove no serious obstacle to the progress of truth.

Whatever defects may be charged against surgeons in the practice of their art, indisposition to accept new ideas or lack of zeal in testing new proposals, cannot be reckoned among the number. And if in some the desire may appear to be excessive, it must be remembered that this is the natural outcome of discontent at the inadequacy of the resources they can at present command, and that such dissatisfaction is the parent of progress and improvement. A curious list, indeed, might be drawn up of the numerous novelties which from time to time have been introduced into surgery, and which, after attracting much attention, have been tried and found wanting. And if it so happen that this particular mode of dressing



wounds should share their fate, still, like many others, it will have served some useful purpose ; for it will, at all events, have helped largely to fix the attention of surgeons on a great source of danger from wounds. Nor is it perhaps likely to be superseded altogether by any plan of management which does not include among its chief object the reduction of this risk to the utmost extent possible. Henceforth, no doubt, as the result of the attention and discussion which have been given to this matter, the words cleanliness and purity will have a wider, deeper, fuller significance for the surgeon. Hospitals and all institutions where the practice of surgery is carried on will soon, let us trust, be no longer open to the shame of even a suspicion of their states. They must not only be made free from all doubt that in their wards mischief may be fostered ; but they must be offered year by year in their records the surest guarantee that they are the safest place for patients. At present, in the worst, antiseptics are the only means employed for counteracting this gigantic evil ; and its proportions may, perhaps, in some degree, be measured by the lavish manner in which antiseptics are consumed. But, after all, they fulfil their purpose but imperfectly, and are themselves not free from evil. Is it rash to affirm that the future practice of surgery will be most successful when it is carried on, not where antiseptics are more largely used, but under conditions least in need of antiseptics ? Nay, is not this so now ?

The study of blood-poisoning : the attention which of late has been directed from all sides on this great subject must prove at advantage to surgery in another way. For some time past, and to the prejudice of our profession, a wall of partition between medicine and natural science has been gradually built up. Physicians and surgeons finding enough, and more than enough, to do in their own immediate work, have of late years passed by the study of natural science, even that branch of it which most immediately concerns them—physiology or biology—with hardly a glance. And the loss from this, which was formerly allowed to be considerable, comes now to be actually questioned in some quarters as a fact. Nay, those who have never made any effort to find opportunity for this pursuit are wont to assert boldly the uselessness of it, and speak of it plainly as waste of time. The study of blood-poisoning in its present form has effected for us in our profession this great

good: it has led us back to paths which have been too long untrodden, and forced upon many of us, in a most attractive way, some little knowledge at least of the first principles and leading facts of biology. It has, at all events, in great measure imposed silence on those who have been accustomed to talk loudly of what they call practical work, and to meet every inquiry not likely to pay with the vulgar version of *Cui bono?* And while, on the one hand, we have been thus forcibly reminded that surgery can never, without degradation, be divorced from physiology; on the other, this fertile field has proved to be common ground on which natural philosophers and surgeons may with mutual advantage, and in furtherance of the same immediate result, work together. It is true enough that no progress of any kind can be made in natural science without advantages in which medicine and surgery must always largely share; but still it is something just now to have a subject like the present one, in which the truth is made so plain upon the tables that he may run that readeth.

And it may be remarked that surgery, while it works in this direction, fulfils its highest purpose, for it aims at the prevention of disease. Heretofore our art has not escaped the reproach that, whatever it may have effected in the way of relief or cure, it has done little or nothing in the work of prevention. But what shall be said of the progress which has been made in averting the occurrence of blood-poisoning; in preventing the most fatal of all affections, which waits alike upon accidental wounds and the surgeon's own work? In accomplishing so much, it has not only thrown light over one of the darkest regions of pathology, but also, by reflection, on the laws which govern health and life.—*Medical Times and Gazette*.

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### MUSHROOM OR TOAD-STOOL POISONING.\*

The terms fungus, mushroom or toadstool poison are synonymously used by mycologists. The three words may be so understood in this article. Mushrooms may poison the human system in three ways, as follows :—

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\*Proof sheets kindly furnished by the author, Julius A. Palmer, Jr., of Boston.

1. They may simply disagree with the organs of digestion, as in the case of the hard; tough varieties of fungi, or in the case of the common mushroom, which in a partly decomposed state, often generates hydrogen gas in such quantity as to produce nausea and vomiting.

2. They may be slimy, acrid or nauseous. Many mild *Boleti* are too slimy for food. The *Russule* have very acrid varieties. *Polyporus Squamosus* and others are bitter, and taste of leaves and grass.

3. They may contain a subtle alkaloid, without taste, smell or other indication of its presence, as in the group known as the *Amanitas*.

The symptoms of poisoning by indigestion are soon manifest, and need occasion no alarm. Relief comes in the natural channels; it may be hastened by emetics, by warm water, or by plunging the finger into the throat.

The effects of poisoning by some acrid or nauseous element are immediate and present nothing to discourage physician or patient. Expulsion through the mouth or alvine canal, followed by emollients of sweet oil, slippery elm or gum arabic, will soon allay the irritation.

It is probable that most of the fatal cases of poisoning by toad stools are due to amanitine. Physicians have in all ages confessed their utter inability to find an antidote for this poison. An eminent chemist stated to me that he should regret to receive for test purposes the stomach of any one so poisoned, as he should not know where to turn for a reagent. This fungus being eaten has no burning or unusual taste. It passes harmlessly through the stomach, mixed with the other food. From eight to fifteen hours after ingestion, dizziness, nausea, and purging begin, followed by fainting, delirium and death.

The foregoing classification is important to medical men. Persons eating noxious mushrooms are, by that very fact, unable to identify the species that caused their sickness. Amateurs will often select six toadstools and class them as of one kind. Let the physician inquire carefully how much time has passed between the suspected meal and the attack. The shorter this elapsed time, the more hope for success by appropriate treatment. Poisoning by amanitine

being the most common and most fatal, to this part of our subject shall the rest of this article be devoted. We shall cite three cases.

Two persons at Santry, near Corbeil, France, made a meal from the *Amanita Bulbosa*, under which head the French include our *Amanita vernus*, *phalloides* and *mappa*, as but slight variations divide these three members of the group.

Beyond vertigo in one case, no ill effects were felt until three and eight, respectively, of the morning following. One patient even slept calmly after the vertigo passed away. Once attacked, however, the usual symptoms followed, and inside of three days both were dead. Space forbids an enumeration of their symptoms. Briefly, from attack to post-mortem appearances, these were little different from those of Cholera Asiaticum.

The physician understood the case, yet after the consecutive use of coffee, tea, antimony, ether, whites of eggs, anti-vomitives, laudanum, milk, leeches, ice and emollient fomentations, he says—

“None of the remedies were followed by the least sign of amelioration.” He afterward excepts (as simple alleviatives) ice internally, and emollients applied externally to the abdomen.

A report of a more recent case, kindly furnished me by the consulting physician, is the second now before me. Any medical man would be struck by their perfect identity. Patients, attendants, and physicians seem to have assumed parallel parts in an equally sad drama. Four persons were poisoned in this case, of which three died. The survivor's letter to me merits publication, and has been admired for its simplicity and clearness by many medical men. The fatal meal was eaten at four o'clock in the afternoon of Monday, October 2d, 1876. About midnight all were attacked who had partaken of it. The first death took place on Thursday following, at ten A. M. The second of the three on the next day, or Friday morning. The one who recovered experienced nothing but a severe diarrhoea. Her exemption and the latest of the three deaths will be the subject of future paragraphs.

The third and still more recent case is identical with the others. Details are, however, not at my command. Two of the patient's were children, and died in thirty-six hours. One, the father, was subject to severe delirium, jumping from a second-story window. The attack came on about eight hours after ingestion. All these

cases are alike in that up to the actual attack no person felt the worse for the fatal meal.

Mushrooms make the same use for the atmosphere as men ; even their exhalations are, accordingly, air vitiated with their properties.

About four years ago a number of poisonous mushrooms (not amanitas, but of a totally different family) were sent me with edible fungus. The two varieties had lain twelve hours in the same box. The noxious ones were rejected, the esculent washed and eaten. In a moment my appetite was gone. Violent perspiration, vertigo and trembling were the next symptoms ; then chills, nausea, purging and tenesmus, all within thirty minutes. Now the substance could not have reached the bowels. The virus absorbed from the noxious fungus, permeated the whole system through eating the harmless ones ; unmixed with other food, it acted upon the muscles, through an empty stomach. Once spent, the attack passed off, and the substance from which the system had absorbed all the venom, was digested without exciting undue motion when it reached the bowels. Probably this result was also due to the use of olive oil as a remedy.

Again, absorption may take place through the pores of the skin. An amanita held in the closed hand will produce all the symptoms of poisoning, even to convulsions. Once, while perspiring from a long walk, I undertook to bring in a large bunch of these mushrooms for an artist. Seated by them in a close car, holding them in my warm hand, although protected by a paper wrapper, a fearful nausea came over me. The toadstool was not at first suspected, yet I had all the symptoms of a sea-sick person, and was only relieved by a wide distance between myself and the exciting cause.

While writing this article, a friend sent me two very elegant specimens of the amanita tribe. They were in a confined box. On opening it, I smelt of them a few times and allowed the box to lie near my desk while I wrote to a medical gentleman anxious to procure such for chemical experiment. Having sent them away the matter was dismissed from my mind until three hours after, when an attack of vomiting and oppression at the stomach enforced it upon my attention. The whites of my eyes became livid, and even to noon the day following the leaden color of my face was noticed by more than one person.

One more example and we will draw the corollary, and speak of remedial measures.

This time I chewed a piece of an amanita the size of a half dime, ejecting the substance but swallowing a little of the saliva. Constriction of the muscles of the throat was the first symptom. One attack of vertigo followed, but it was momentary. Disgust with customary employment, like that felt in sea-sickness was the most constant sign of the presence of the poison. Seventeen hours after swallowing it, I for the first time, could have vomited, and felt a slight straining and tenesmus, after which the effects passed quickly away.

From these personal experiments the following conclusions may be drawn : The poisonous principle of fungus being absorbed by a harmless element, if the latter be eaten, the venom acts more quickly and surely. Additional proof of this assertion exists in the fact that if the amanita be cut in sections and laid in vinegar, the fungus may then be eaten without danger to life, but on a very small dose of the vinegar, death will follow more speedily than if the whole toadstool be eaten. One stage in the process of absorption has been completed. This last conclusion admits of one exception. In the second case of poisoning cited herein, a single member of the family escaped death. She put vinegar on the toadstool in her plate before mastication. The alkaloid was neutralized thereby, or at least fused with acid strong enough to occasion no harm excepting unusual action of the bowels.

But, after ingestion, any administration of remedies calculated to precipitate the alkaloid, or to amalgamate it with the gastric juices, only helps absorption and lessens the patient's chance of expelling it before his digestion has extracted all its venom. A dog poisoned with amanitine received vinegar as an antidote ; his symptoms were all fearfully aggravated and great distress ensued. The presence of the assimilating agent simply aided the system in absorbing the virus. Sweet oil was given, when he vomited the fungus mixed with whitish mucus, and, on a milk diet, recovered.

Again, the inflammation, cramps, colic and straining at stool, do not cause the death of the patient, but are simply secondary effects of the poison absorbed. A few drops of amanitine injected up the back of a frog will produce death in one hour, without leaving on the body the slightest indication of inflammation. My most violent personal experience with the poison was when I was inoculated

through the mucous membrane by the sense of smell alone. The oppression in the stomach and abdomen was very severe, yet not a piece of poisonous fungus lay in the intestines.

The poisoning by chewing a small piece shows how little may endanger human life, and further, that the operation through the digestive functions is so slow that any members of the amanita family should be tested with great care as esculents.

In speaking of the remedial measures it will be well to bear in mind that these remarks apply to the amanitas alone, the presence of which can be inferred by the physician, wherever the attack commences at eight hours or over after the mushrooms. Whatever the remedies used, they must be introduced into the system as *directly* as the physician's judgment may deem possible. The writer of this article is not a medical man, and he does not propose to dictate to those who have given drugs and their effects on the human frame and its wonderful network, their attention for many years.

Yet subcutaneous injections and enemata possess the most important qualifications for reaching poison by fungi. Two drugs may be suggested for hypodermic use: tobacco and atropine or belladonna.

The throbbing heart of a frog is silenced by a drop of muscarine; or Schmiedeberg's alkaloid from *Amanita Muscaria*. Action is restored by a drop of atropine. Animals who have been hypodermically injected with atropine are unharmed by a fatal dose of muscarine. Contrariwise, patients have eaten amanitas, and by means of emetics and purgatives every trace of the fungus has been removed. Stimulants and alleviatives have apparently built up the system; sixty hours after, præcordial distress, faintness, coldness of extremities and other symptoms have been manifest, proving that in rejecting the fungus the system had not discharged itself of the poison. By most mycologists, either emetics or cathartics are considered worse than useless in poisoning caused by amanitine. Injections of warm water, soap and water, perhaps mixed with oil of sweet almonds or oil of olives, on the contrary, relieve the tenesmus, and by producing motion in the lower intestines much assist the bowels in expelling the foreign substance in a natural manner.

Then the physician should use subcutaneous injections of atropine (which seems to control this most powerful of known poisons),

or such other drugs as the symptoms may indicate, or his discretion dictates.

Perhaps this article would be incomplete without a description of the leading traits of the amanita family of mushrooms. These are, first, a volva or wrapper, which encloses the young plant before it leaves the soil, and may be found at the base of the stem of the full-grown mushroom. The remains of this volva also appear on the cap or pileus, in the form of irregularly scattered and sub-persistent warts or scurf, easily rubbed off, leaving the skin intact. The gills underneath the cap are pure white, and if the mushroom is laid on blue paper a few hours, the white deposit of the spores will resemble delicate shading with an artist's pencil. The color of the mushrooms is very variable, red, orange, green, yellow and white, with intermediate shades. The most common to this latitude is pure white or yellowish white cap and otherwise pure white. There are several kinds which may be safely eaten, but it is far better for an amateur to avoid the whole group. The dangerous varieties are extremely common.

We make daily use on our table of a great many varieties of mushrooms for food, gathering them fresh in summer and drying the superfluous stock for winter use. Personal experiments prove that the constant use develops an extreme sensitiveness to the toxicological properties of fungi; the system does not become hardened to their noxious elements. Contrariwise, it repels them and is repelled by them in quantities which a stranger to such diet would not notice.

Because a mushroom is eaten with impunity by the lower animals, it by no means follows that it is fit for the food of man. In the case of October, 1876, mentioned herein, the amanitas were fed to the pigs, who ate the whole stew without ill effects. Swine are also proof against the noxious properties of *amanita muscarius*, and rabbits will swallow unharmed some other non-esculent fungi. On the other hand, *agaricus melleus* is said to have killed a dog in twelve hours, and a cat to have died in terrible convulsions from a meal of *marasmius oreades*. I have seen a dog very sick from biting off the tops of the *coprinus comatus*; all these are edible mushrooms.—*Moniteur Scientifique, Du Quesneville, Paris, Rue de Buce, January 12th, 1879.*



## ACTION OF CERTAIN DIAPHORETICS.

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Modern physiological research has demonstrated the dependence of perspiration upon the nervous system, not merely as a normal phenomenon, but also as the result of the administration of diaphoretic medicines. The researches of Marmié and Nawrocki have shown that the centre which regulates the occurrence of sweating is probably seated in the medulla oblongata, and this observation is confirmed by a new series of experiments by the last named investigator. These experiments, an outline of which has been published in the *Centralblatt für die Med. Wissenschaften*, are of interest also as a fresh demonstration of the fact that some medicinal agents which promote perspiration act through this medullary centre. The drugs employed in these observations were acetate of ammonia, sulphate of physostigmin, nicotin, and picrotoxin. Marmié showed that the injection of camphor dissolved in oil, or a solution of acetate of ammonia, caused perspiration upon every paw of the animals experimented on, but that if one sciatic nerve was divided the corresponding paw remained dry. Section of the lower part of the spinal cord also arrested the effect. Nawrocki finds that the perspiration is also arrested by section of the cord below the medulla oblongata, the animal being, of course, under artificial respiration. A similar result was obtained with sulphate of physostigmin. The spinal cord below the medulla and the left sciatic nerve of a curarised animal were divided; the feet were dry. Four milligrammes of physostigmin were then injected without effect. The left sciatic was then stimulated by faradisation, and after a minute the left foot was covered with abundant drops of sweat. On the other hand, the sciatic only was divided in another animal; the same quantity of physostigmin caused abundant sweating in the other three paws, but that of the leg in which the sciatic had been divided remained dry.

Luchsinger proved that nicotin exerts an action on the centres for perspiration, and found that in rare cases it was capable of exciting a slight secretion of sweat after the nerves of the limb had been divided. Nawrocki found that after division of the cord below the medulla, a slight secretion followed the severe convulsions which the injection of one drop of nicotin immediately produced, but subsequent convulsive attacks caused no perspiration. In another

animal one sciatic nerve was divided, the spinal cord being left intact. The injection of nicotin caused profuse secretion on the other three paws, but none in that supplied by the divided sciatic. The injection of picrotoxin, which had been found by Luchsinger to be a powerful diaphoretic, yielded similar results. After division of the spinal cord at the eighth dorsal vertebra, picrotoxin (.04 grm.) caused sweating on the fore-paws, none on the hind-paws. In another similar experiment, faradisation of one sciatic caused sweat to appear on the corresponding paw, although the other remained dry, in spite of severe convulsion, during which the fore-paws were covered with sweat. Division of the cord at the level of either of the third or the first cervical vertebra arrested all secretion of sweat after the injection of picrotoxin, although abundant salivary and lachrymal secretion occurred. On the other hand, in a similar experiment to the last, although after division of the cord picrotoxin had no effect, pilocarpin subsequently injected caused in four minutes abundant secretion from all the limbs.—*London Lancet*.

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### FATTY EMBOLUS.

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Fatty embolus was observed for the first time by Zenker in 1862; since then similar cases have come frequently under notice. For some time past, Flournoy has carefully examined all the bodies which were brought to the pathological institution of Strasburg, and has found that fatty embolus occurs in 10 per cent. of the cases. The causes of this affection may be briefly summed up as follows: crushing of fleshy parts of the body which contain much adipose tissue, lesions of the marrow of the bones, or inflammatory changes taking in the latter (not acute osteo-myelitis). In those cases which do not end fatally, the *vis à tergo* of the circulation carries the thrombi from the lungs into the region of the aorta, where it seems that secondary thrombi may remain for an indefinite time without causing any disturbance, and are finally dissolved in the alkaline blood. The symptoms of fatty embolism may be described as follows: the patient begins suddenly to feel weak; respiration about

60 ; pulse small, very frequent ; temperature high ; crepitation, first in the bronchi, then in the trachea ; dyspnoea frequently becomes orthopnoea ; the lips are covered with a reddish froth ; the face is first pale, and later on, becomes cyanotic ; the extremities are cool, the pupils contracted ; the patient becomes somnolent, then comatose, and dies finally ; in some cases vomiting and convulsions preceded death. This has often been observed after severe injuries of the bones. The treatment is the same as in œdema pulmonum. In 13 per cent. of the 140 cases which have been mentioned in pathological literature, death has been caused by fatty embolus—*London Medical Record*.

## DO NOT BE IN A HURRY TO PERFORM ŒSOPHAGOTOMY.

We are indebted to the *Boston Med. and Surg. Journal* for a case by Isaac F. Galloupe, of Lynn, Mass., for another lesson in the watch and wait theory.


“I was called up at two o'clock in the morning by a middle-aged lady, who had come four miles to consult me. She stated that she had a full set of false upper teeth ; that she had them in her mouth when she retired the night before ; that she awoke at one o'clock, choking ; that she felt the teeth go down into the stomach, and that she had suffered from severe pain in the stomach since. I doubted whether she could swallow so large an object so easily, but she stated that when she went to bed the teeth were certainly in her mouth ; that the bedding had been carefully examined and the whole house ransacked to find the teeth, but they were nowhere to be found ; and that she was *sure* she had swallowed them. I passed a probang into the stomach, but felt nothing. I then gave her a dose of sulphate of zinc, which operated in two minutes, but no sign of the teeth. I then advised her to go home and fill the stomach with soft food, and await events. I saw nothing more of her for a month, when I called on her to ascertain what followed. She looked somewhat mortified when she told me that after her return home that night another search was made, when the teeth were found *under the bed*.”

## EDITORIAL.

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### THE ANÆSTHESIA QUESTION REÖPENED.

It is easy enough to avoid the entire question of the discovery of anæsthesia, leaving it among the matters which time must settle, or to pronounce it a muddle from which no positive facts can be learned.

Dr. Marion Sims who has long been known to the profession as an original worker, has come forward to claim for Dr. Crawford W. Long, of Georgia, the honor of the discovery of anæsthesia, a claim entirely too serious to be made without certain data, but nevertheless one that should be vigorously pushed if the evidence is sufficient. We assume that this is a question about which sectional pride has no concern, more particularly are we thus warned as we recollect how entirely sectional the preference for one or the other anæsthetic has become in the last fifteen years. The only question that should concern us is what amount of truth is there in Dr. Sim's statement of the claims of Dr. Long.

It seems to us from a careful examination of Dr. Long's first publication in 1849, that he did not carry his experiment in etherization beyond the first or exhilarating stage of anæsthesia.

Venable the subject of Dr. Long's two first experiments held the towel himself and was conscious of what was going on. He says : I commenced inhaling the ether before the operation was commenced and continued it until the operation was over." This certainly was an incomplete anæsthesia. How could he know what was going on if he was unconscious ?

Again, speaking of the second experiment, Venable says : " In this operation I did not feel the least pain *until the last cut was made*, when I felt a little pain." Evidently, Venable was only partially unconscious and was able to keep his eye on the whole affair. Dr. Long's *etherization* was simply exhilaration and not the complete anæsthesia we are familiar with.

We note another curious admission : " The result of my second experiment in etherization was such as led me to believe that the anæsthetic state was of such short duration that ether would only be applicable in cases in which its effects could be kept up by *constant inhalation* during the time of the performance of the operation. Under this impression, up to January, 1847, I had not used ether in but one case in extracting teeth and thus deprived myself of experimenting in the only class of cases which are of frequent occurrence in a country practice."

The result of the above admission is fatal to Dr. Long's claim.

1st. Dr. Long's etherization was "an anæsthetic state of short duration" produced by the patient himself (Dr. Long nowhere says that *he administered* the ether.) He implies that a "constant inhalation" was impossible.

2d. He did not consider his anæsthetic state of sufficient duration to apply it to "the only class of cases" which came to his hand, viz : tooth pulling. If he could not pull teeth of his patients while they were in his "anæsthetic state" surely it was worth little.

Finally none of his experiments bore fruit and the world did not get anæsthesia from them.

This is no new phenomenon in the history of discoveries. Many of the most prominent discoveries in daily use, were the outgrowth of the strong and earnest desires of generations of thinkers to bring about the result. To produce a state of unconsciousness whereby the medical man could perform painful manipulations on the sick under his care, has a history extending through many generations

of the human race, and our readers will recollect how carefully SIR JAMES Y. SIMPSON brought together the items, and with what scholarly skill he worked out the narrative.

One illustrious example of the apparent forecast of great discoveries, we will narrate, as we believe it will be interesting to some of our readers.

Twenty-two years before JENNER performed his experiments in cow-pox inoculation, Benjamin Jesty made experiments exactly similar, as seem to have been abundantly verified. A full account of this narrative will be seen in the *London Lancet*, Oct. 25th, 1862,\* but it is a parallel of what we have under consideration in the case of the claims by Dr. Long's friends for him, except that in the case of Jesty's friends we have more reliable proof.

We have in our possession a photograph of the tomb-stone of Jesty† the inscription from which reads as follows :

(Sacred)  
To the Memory  
—of—  
Benj'm. Jesty (of Downshay,)   
who departed this Life  
April 16th, 1816  
Aged 79 years.

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He was born at Yetminster in this  
County and was an upright honest  
Man particular noted for having  
been the first Person (Known) that  
introduced the Cow-Pox  
by Inoculation. and who from  
his great strength of mind made the  
Experiment from the cow on  
His Wife and two Sons in the year 177(4).

This inscription was made eighteen years after Jenner's discovery was given to the world, taking it for granted that it was erected at the time of Jesty's burial.

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\*Trousseau's Clin. Med., Vol. II, p. 103.

†For this we are indebted to Dr. Henry A. Martin, of Boston, and also for many other valuable historical mementoes of the history of vaccination.

But admitting the entire veracity of this history, it has never dimmed the glory of Jenner's discovery; for as Trousseau justly remarks in weighing this historical item of Jesty's priority: "Jenner  
" had the incontestable merit of having contended against all the  
" obstacles put in the way of the practice of vaccination, and of  
" having communicated to contemporary physicians the belief which  
" he had deduced from the observation, and rigorous interpretation  
" of facts."

Dr. Barron\* also expresses the same idea in considering the claims of Jesty as follows: "Granting that these really were what they  
" purport to be, they do not in the slightest degree affect Dr.  
" Jenner's claims. They did not advance the knowledge or the  
" practice of vaccination beyond what casual observation and popular rumor had rendered common in many districts \* \* \* they  
" were quite unknown to Dr. Jenner, and had it not been for  
" his publication they never would have been drawn forth from their  
" obscurity."

We are strongly of the conviction, that if no subsequent experiments had been made, that the step Dr. Long made towards the discovery of anæsthesia would have been as barren as were Benjamin Jesty's towards the establishment of vaccination. W.

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## NORTH CAROLINA BOARD OF HEALTH.

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At our last report forty-one counties had organized auxiliary Boards of Health, and that number has at this date received still further increase. The obstacle to a more rapid formation of these Boards is two-fold.

Many counties in the State are remote from lines of travel, and act slowly upon all new matters. Also, in about one-fifth of the counties there are no legalized practitioners, at least none who will undertake the work for the pay allowed. An investigation into these various causes has revealed a state of affairs in some counties that calls for radical reform.

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\*Barron's Life of Jenner, Vol. I, page 50.

It will be remembered that the basis of the salary of the County Superintendents, is the sum total of the money spent for medical services to the sick in the poor-house, work-house, and jail, and for medico-legal post-mortem examinations.

This sum in some counties is shamefully small, and principally for the reason that the sick-poor are farmed out to the lowest bidder, no regard whatever being paid to the qualification of the physician, whether he is lawfully entitled to practice medicine in the State or not. County Boards have practiced cruelty, under the mistaken notion of saving money for the people. The sick-poor of many counties were deliberately, on the score of economy, turned over to the cheapest doctor, who too often was an unlicensed practitioner, and therefore not entitled to receive the pittance he thought sufficient for his services.

It is astonishing that in Christian communities that the wards of the county, sent to the poor-house at the public expense because of their legal right to this merciful care, have been treated as malefactors. Placed upon the coarsest of food, white and black intermingling freely and debasing each other, and in so many instances farmed out to the merciless task master at a price that allowed no margin of profit to the "farmer," except by reducing the food of these unfortunates to a starvation scale; or else by driving the unoffending inmates to the field to eke out their own living.

One poor fellow, a German Jew, confined to the county hospital with locomotor ataxia wrote to one of us a pitiful letter, asking us "please to send me a knife and fork, the eating here are so tough I cannot get it off with my teeth." In this very hospital the "farmer" amassed a competency, and earned the soubriquet of "doc," by administering physic to the county sick, to save the expense of a doctor's visits.

The evil has been, and is now wide-spread in this State. Dr. Tate Murphy made an official tour of all the charitable and penal institutions of the counties, when a member of the State Senate, and we are sure he will confirm our statement that wretchedness was found, where the counties should have been proud to have shown a refined humanity in the care of their helpless.

This brings us back to the reasons of failures in so many instances to organize County Boards.



The year 1878 was no exception to the niggardly economy in the care of the poor, and because we could do no better, we made the expenses of that year the basis of payment for 1879 and 1880. Of course an effort will be made to change all this by the next Legislature, and until then we ask that the leading regular physicians in the counties who have not organized, will take the matter in hand at once. If this law was faithfully carried out with that degree of pride which should possess the educated men of our profession, the renovation accomplished would elevate the status of the profession in this State to the highest degree. The possibilities are very great. Moreover this renovation is inevitable. The profession in North Carolina have already inaugurated good work, and the signs of the times are that in the future the means given to us by the State will be more efficiently used.

The Board of Medical Examiners is alive to the great responsibility resting upon them, and the several State medical bodies moving on together harmoniously, each in its own sphere, will send forward the current with a velocity that the most unwilling will not be able to resist. The responsibility of creating public opinion, or directing it into humane channels must be undertaken by the educated doctors. The world looks to them for reform in these matters, and whether they undertake it or not, the failure to accomplish it will be charged to their account.

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## THE TREATMENT OF CHRONIC ULCERS BY THE RUBBER BANDAGE.

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The three most conspicuously successful among the surgical appliances of the last twenty-five years, named in the order of their usefulness, are Smith's anterior suspension splint in the treatment of fractures, Sayre's plaster jacket for spinal deformities, and Martin's rubber bandage for chronic ulcers, varicose veins, and some forms of skin disease.

The latter appliance is entirely too little known. In the JOURNAL, February, 1878, we called attention to it, promising to say more

about its merits when we had more extended experience. Since then we have treated many heretofore intractable ulcers, both in hospital and private practice, and the success has been equal to that promised for it by its distinguished inventor, Dr. Henry A. Martin, of Boston.

The first two cases selected for treatment with the rubber bandage were of the worst of the bad forms occurring among sailors. The first, a mulatto, passed the middle life, who was not only a cripple, but an offensive man among the rest of the crew, on account of the putrid odor of his leg, and was sent to the hospital hoping that amputation would save his life. Examination revealed an ulcer of enormous size, extending quite around the leg from two inches below the patella to the ankle. The leg measured the same across the instep as at the largest part of the calf—18 inches. We could hardly resist the temptation of examining the patient, under chloroform, to see how much of the bone needed to be chiseled away. But mentioning it to a professional friend who was present, the patient begged for some other relief, and Martin's rubber bandage after some delay was procured, and applied. In a month the patient was ready to return to light duty, and for the greater part of his detention in the hospital he was able to scour the floors, and do other work. His confinement in bed terminated with the application of the bandage.

In the second case a young negro sailor applied for treatment, with an exceedingly offensive and extensive ulcer on the calf of his leg. The edges of it were undermined, greyish, and covered with ichorous fluid, which dripped as the foul rags covering it were removed. A good washing with sulphate of zinc solution dripped from a bottle held high enough to get away all the gangrenous shreds around the edge, was followed by the application of dry borated cotton to fill up the irregularity of the surface, and Martin's bandage was applied. In two days the uniform pressure had brought the ulcer to the level of the skin, and in ten days the patient was ready for light work.

Many other cases kept under observation for the especial purpose of seeing how far the treatment resulted in permanent gain, were as satisfactory as this, although none had as extensive ulcerating area. One patient in particular had a traumatic aneurism of the left

femoral artery, with several small varicose ulcers on the leg. His constitution was much impaired by residing in the malarial atmosphere of a rice plantation. He had tried salves innumerable, and was now forced to take his bed. The rubber bandage was applied, first covering the small ulcers with bits of linen, and in a few days the patient was able to superintend his work in person. His ulcers break out now and then but it is only when he neglects his bandage. Like all the patients who have used the bandage for a few days, he has learned to apply it with nicety. And not only this, he has learned to place so much reliance in the bandage, that the ulcers give him little concern, and indeed he wears it as a matter of precaution.

Every one knows that the application of bandages has been one of the surgical means employed for the cure of ulcers, but very few doctors know how large a number of ulcers they will cure by Martin's bandage. It is not necessary to puzzle the brain about the the class to which the ulcer belongs—whether specific or non-specific—but apply the bandage and meet the constitutional indications of the patient as the case demands. It is certainly the case, that no such results as we get from Martin's bandage are ever obtained from flannel or cotton bandages.

The priority of discovery which agitated the brain of Dr. Rushton Parker in the London *Lancet* of September, (Am. Ed.), a paragraph of which we quoted in the September JOURNAL, but which we by no means endorsed, is evidently more a matter of national pride, than of personal experience with him.

If Dr. Martin has not put the American medical profession under lasting obligation to him by mastering the subject of vaccination, and by making pure the fountain of our vaccine supply, his fame could safely rest on the introduction of the rubber bandage for the cure of chronic ulcers. He has carried conviction wherever he has succeeded in introducing his innovation, and the practice is destined to be of universal application. Let us remember that the honor attaching to all the discoveries which have proved successful in the prevention or alleviation of human disease, belongs to the men who have established them as permanent methods of practice, and not to the claimants who had been "using the treatment for a long time, but did not think it worth while to present it to the profession."

## REVIEWS AND BOOK NOTICES.

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CLINICAL MEDICINE. A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of Students and Practitioners of Medicine. By AUSTIN FLINT, M. D., etc. Svo. Pp. 785. H. C. Lea. 1879.

The announcement of a new book by the elder Flint must awaken the liveliest interest in the minds of all practitioners, since it is through him that many of our best inspirations have been derived. Of one thing we may be quite sure, namely, that his motive in writing has been an altruistic one, looking in no way to selfish or ambitious ends; with him authorship is evidently the outcome of a sense of duty.

This is the seventh or eighth in the series of systematic medical works for which we are indebted to Dr. Flint, and like the others is destined to an equally high rank. In its smooth, round phrases, elevated tone, and concise and lucid language it is in keeping with the fine personal appearance, the elegant address, and dignified, yet pleasant manner of its learned author. It is not a treatise on the Practice of Medicine, for that he has already given us in his large work: it only aims to consider diseases in their diagnostic and therapeutic aspects, and takes purposely little account of causation, pathology or morbid anatomy, not that these are not highly useful parts of medical study, but because their consideration would give a character to the work which it was not intended that it should have.

Its subjects cover the whole scope of medicine and are arranged to conform with the most approved nosological classification; that is, the various diseases are grouped and considered in classes determined by their relation to the several great physiological systems, an arrangement which greatly facilitates the study of differential diagnosis.

We regret that we have not space enough to indicate all the excellent features of the book, and as there is absolutely no room for adverse criticism, we must be content with a general commendation, noting a few points only, taken at random and without wishing it to be inferred that they stand out with special prominence or significance beyond the rest.

The author in common with most modern authorities does not regard pneumonia as a local disease, but as an essential fever, of which the inflamed lung is a constant anatomical expression. The relation of this theory to the therapeutics of pneumonia is obvious. Pneumonia sometimes aborts, how, we are not told. It has been known to be aborted by quinia, but no explanation is ventured as to the mode in which this drug operates, whether through antipyretic virtue, by preventing inflammatory infiltration (cellular migration) or directly by destruction or displacement of the morbid cause of the fever.

Among antipyretics (their use in pneumonia is not specially referred to here) quinia, salicia, salicylic acid, digitalis and cold water are spoken of approvingly. Kibbee's cot is not mentioned.

Not much stress is laid upon the topical treatment of diphtheria. Rough manipulations of the faucial parts is deprecated, and it is pointed out that the mechanical removal of the membranes lays bare raw surfaces, and furnishes new sources of irritation and a ready way for the passage of septic material into the blood.

Thin slices of salt pork, stitched to a bandage are commended for application to the throat in anginose scarlatina.

The possibility is pointed out of persons being attacked with parenchymatous nephritis after exposure to scarlet fever, even without having taken the disease; this indicates how important it is that the kidneys and urine of such persons should be looked after.

Salicylic acid is regarded as the remedy *par excellence* for acute rheumatism; it naturally reduces the duration of the attack but does not, except, in this way, diminish the chance of cardiac complications. The alkalies have a parallel effect, but in a less degree. Colchicum is held to possess little or no remedial virtue in acute rheumatism, but is useful in the chronic forms and in gout.

In bringing this brief notice to a close we would call attention to the excellent introductory chapter of the book; it could have been written only by one possessing a full, ripe experience, and unusual analytical powers.

DEK.

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DIPSOMANIA—as Distinguished from Ordinary Drunkenness. By I. D. THOMPSON, M. D. Baltimore: Junior Physician to the Mt. Hope Retreat Insane Asylum. 1879. Pp. 16.

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS. By FANCOURT BARNES, M. D., M. R. C. P. Lond. 12mo. Pp. 201. H. C. Lea. 1879.

This little work purports to have been written for the instruction of midwives and medical students ; but it overshoots the mark for the first, at least so far as this country is concerned, and falls much below the requirements of the second.

The mechanism of simple labor, which should constitute the main if not the only feature of the book, is treated of in too brief a manner, receiving far less consideration than deformities of the pelvis or the various forms of dystocia.

We fail, therefore, to see exactly what place this manual is to fill. Most of our so-called midwives are unable to read even the title page, and certainly the book does not contain all that medical students ought to learn. Perhaps there are a few practitioners who, not being very familiar with obstetric practice may find it useful in the facility with which it may be carried in the coat pocket for sly consultations.

Dr. Fancourt Barnes, the author, writes well and shows a potentiality for greater things than this.

His style is concise, lucid and learned, like that of his father, Dr. Robert Barnes, for which we may say of him, with the full compliment conveyed in it, *sequitur patrem possibus æquis*.

DER.

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RETROVERSION IN RELATION TO LACERATION OF THE CERVIX UTERI, etc. By NATHAN BOZEMAN, M. D. New York. 1879. Pp. 18.

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REMARKS ON OVARIOTOMY, WITH RELATION OF CASES, AND PECULIARITIES IN TREATMENT. By NATHAN BOZEMAN, M. D. New York : Pp. 60. 1879.

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*Five Children at a Birth.*—The *Cologne Gazette* reports from Kettwig that a woman there has had five children, four boys and one girl, at a birth. They only lived a few hours. Though very small, they were well formed. The mother is recovering rapidly.

# CENSUS OF THE CITY OF WILMINGTON, N. C., FOR YEAR 1879.

Aggregate Popu- tion.	CENSUS OF 1879.						1870.			1860.			1850.			MORTUARY STATISTICS.						Still Births.	TWINS.						
	WHITE.			COLORED.			White.	Col'd.	Aggre- gate	White.	Col'd.	Aggre- gate	White.	Col'd.	Aggre- gate	Death Rate to 1000 Population.							White.	Col'd.	Total.				
	Male	Fe- male	Total	Male	Fe- male	Total	5,526	7,920	13,446	5,292	4,360	9,652	3,581	3,085	7,264	WHITE.			COLORED.										
							Aggregate Deaths for the Year.						Death According to Classification of Ages.						WHITE.							COLORED.			
							White.	Col'd.	Agg'te.	Male	Fe- male	Total	Male	Fe- male	Total	Male	Fe- male	Total	Male	Fe- male	Total								
							96	243	339	96	243	339	96	243	339	96	243	339	96	243	339								
17,004	3,336	3,380	6,716	4,084	5,004	10,288	White.	Col'd.	Agg'te.	Under 18 mos.	15	17	32	49	58	107	Male	Fe- male	Total	Male	Fe- male	Total	7	19					
Under 18 mos.	147	173	320	253	271	524				Under 18 mos.	15	17	32	49	58	107	100.00	102.00	98.26	103.67	214.02	204.17	Death Rate.						
18 mos. to 6 yrs.	364	315	679	541	616	1,200	6	20	26	18 mos. to 6 yrs.	4	2	6	10	10	20	8.00	10.89	6.31	16.05	17.12	16.23	White.						
6 yrs. to 21 yrs.	624	672	1,296	1,300	1,065	3,025	12	20	32	6 yrs. to 21 yrs.	8	4	12	11	9	20	6.32	8.65	4.11	6.61	8.08	5.45	White.						
21 yrs. to 45 yrs.	1,322	1,320	2,642	1,715	2,158	3,873	18	47	65	21 yrs. to 45 yrs.	7	11	18	19	28	47	6.81	5.21	8.33	12.13	11.07	12.97	White.						
45 yrs. to 55 yrs.	334	387	721	512	589	1,101	9	11	20	45 yrs. to 55 yrs.	7	2	9	6	5	11	11.51	17.76	5.16	9.59	11.71	8.48	White.						
55 yrs. to 70 yrs.	153	160	313	227	235	462	10	14	24	55 yrs. to 70 yrs.	4	6	10	5	9	14	31.24	20.14	37.05	30.30	22.02	38.34	White.						
70 yrs. to 80 yrs.	31	42	73	29	58	87	6	16	22	70 yrs. to 80 yrs.	5	1	6	8	8	16	82.19	161.20	23.80	183.91	275.89	157.93	White.						
80 yrs. to 90 yrs.	1	9	10	2	10	12	2	4	6	80 yrs. to 90 yrs.	1	1	2	0	4	4	200.00	1000.00	111.11	333.33	0	400.00	White.						
90 yrs. to 100 yrs.	0	2	2	2	1	3	1	4	5	90 yrs. to 100 yrs.	0	1	1	2	2	4	300.00	0	500.00	133.33	1000.00	2000.00	White.						
Over 100 yrs.....	0	0	0	0	1	1	0	0	0	Over 100 yrs.....	0	0	0	0	0	0	0	0	0	0	0	0	White.						
	3,336	3,380	6,716	4,084	5,004	10,288	96	243	339				96		243								White.						
Increase for the past 9 yrs of nearly 21 per cent.																								Folly Brock—47 years.			Rainey Cochran—over 100 years.		

## SCHOOL STATISTICS.

Number of Months the Schools are in Session.	Number School Children from 6 to 21 yrs.			Number enrolled in the Public Schools.			Number attending in other Schools.			Daily attendance at Public Schools.			Number of Teachers.		DIVISION OF POPULATION.										LIMITS OF CITY.							
	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Number of School Districts.	Cost for each District.	Number of School Children enrolled.	Total Amount expended for the schools in the city.	North of W. & W. Road.	South of Market Street to Rail Road.	All South of Market Street.	Aggregate Population.	North to South in Miles.	East to West in Miles.	Total Territory in acres about City.	No. of Horses.	No. of Cows.	No. of Hogs.	No. of Dogs.	No. of Sewing Machines.	No. of Pianos.	
9	1,896	3,925	4,921	713	717	1,430	1,201	1,280	2,481	370	928	1,298	80 pr c.	78 pr c.	9	11	2	86 94	57,575 27	3,831	5,857	7,316	17,004	23	17	2,100	370	318	407	1,178	876	347

## POSTAL STATISTICS.

## METEOROLOGICAL.

## POLITICAL.

## COMMERCIAL STATISTICS.

Letters & Postal Cards Mailed.	Letters & Postal Cards Received.	Cash Received for orders Issued.	Paid out on Mails.	Newspapers Received &c.	Newspapers Mailed.	Highest Temperature. Fahrenheit.	Mean Tempera- ture for year.	Mean Tempera- ture for June, July & August.	Greatest Rainfall.	Votes in the City.	Ratio of Voters to Population.	Value of the State.	Ratio of Voters to Population.	Relative posi- tion of the State according to Population.	No. Vessels Entered.	Tonnage.	Exports.	Cotton Receipts.	Value.	Capacity per day of Com- merce.	Depth of Wa- ter at Medium High Water.	Position as Cotton Port.	Crop of 1878-79.						
778,100	576,000	880,000	105,000	880,000	60,000	100	75	70.88	Aug. 18	504	5700	13-16	230,000	5	17	315	134	60	10800	8896	194700	\$12,000,000.	35088	135720	8425325	2700	16	No.	507,165





## CURRENT LITERATURE.

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### EXPERIMENTS AND CLINICAL OBSERVATIONS ON THE HÆMATINIC PROPERTIES OF DIALYZED IRON.

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In a contribution to the *Boston Medical and Surgical Journal*, by Robert Amory, M. D., we notice some points of unusual interest, not only for the clear and instructive manner the experiments were conducted, but for their scientific narration and illustrations.

The subjoined extracts will serve to render the matter intelligible, although the heliotype illustrations are needed to carry the full force of the author.

“Gowers’ hæmacytometer, the instrument I used in the following observations, consists of a glass slide upon which are ruled squares one-tenth of a millimetre in extent, and these are inclosed in a cell one-fifth of a millimetre in depth. This slide can be used with any microscope, and with a lens of any desirable magnifying power; moreover, the magnified image of the slide may be projected by means of a prismatic eye-piece upon a screen. The principle of Malassez’s “*compte globule*” does not admit of either of these convenient methods of delineation. In addition to the ruled slide there are two pipettes, one of which holds nine hundred and ninety-five cubic millimetres, and the other five cubic millimetres. The principle and method of using this instrument are then based upon the following facts: If a known measure of blood be carefully drawn from an acupuncture, and intimately mixed with two hundred times its volume of a saline solution (specific gravity 1025) having a density sufficient to prevent the corpuscles from imbibing water, and so bursting their envelopes, these corpuscles, separated from each other, will float in this mixture, and will finally settle down to the bottom of the containing vessel or dish.

“In this manner a small portion of the mixed or diluted blood is placed in the above described cell, and the corpuscles are allowed to settle to the bottom, so as to be nearly on the same plane as the ruled lines, and are pretty uniformly distributed. The number of corpuscles in ten contiguous squares can be readily counted, and this sum multiplied by the figure ten thousand will give the number of corpuscles in each cubic millimetre of the pure or originally

drawn blood because ten cubes, each one of which has the dimensions  $\frac{1}{10} + \frac{1}{10} \times \frac{1}{5}$  millimetres (or  $\frac{1}{500}$  of a cubic millimetre), will contain  $\frac{1}{50}$  of a cubic millimetre, and since the original blood was diluted with two hundred volumes, the number of corpuscles actually counted in the ten squares must be multiplied by two hundred times fifty, or ten thousand, in order to obtain the number in each cubic millimetre of undiluted blood. If we wish still further to separate the corpuscles from each other, we may use four hundred volumes of the diluent to one of the blood, but in that case we must either count the corpuscles in twenty squares and multiply by ten thousand, or count those in ten squares and multiply by twenty thousand.

“The individual or personal error of vision which is associated with all other optical instrument is perhaps somewhat difficult to reduce to mathematical accuracy, on account of the fact that constant observation fatigues the eyesight, and hence the results of a series of these observations are subject to an inconstant variation. In consequence of this apparent difficulty, I decided to project upon a photographic plate the image of the corpuscles on the ruled slide, then to print from the negatives, and count upon the print the number of these corpuscles, each one being obliterated as soon as counted.

“Hearing from certain members of our profession expressions which indicated a skeptical distrust in regard to the virtues of the solution of dialyzed iron, I was induced to undertake a series of observations upon the hæmatinic properties of this medicinal agent, and yet I must frankly acknowledge in advance that my own clinical experience with this form of iron had led me to attach it to a value in simple anæmia, and to place this remedy by the side of Quevenne’s iron. I have taken pains to inquire how much metallic iron is contained in the so-called dialyzed iron, and learn that a sample of the scaled dialyzed iron as prepared by one of our large wholesale druggists has been analyzed by Prof. Charles M. Cresson, of Philadelphia, and that he found it to contain fifty-two per cent. of metallic iron, or over seventeen per cent. more than is contained in the sesquichloride of iron; compared with the sesquichloride it is equally soluble, keeps without change, does not corrode the teeth or fabrics with which it may be brought in contact, and contains a

greater percentage of iron. The manufacturer from whom this sample was obtained claims that his solution of dialyzed iron has over twenty grains of ferric oxide in each ounce of solution, and in proof of this has shown me a certificate from Prof. F. A. Genth, of the University of Pennsylvania, that a sample of his manufacture, which was purchased by the latter from a retail druggist in Philadelphia, contained 21.69 grains of ferric oxide in each ounce of solution.

“The following table of assays of various iron preparations was made by M. Quevenne. One gramme (fifteen grains) of the following preparations was soluble in two hundred grammes of gastric juice in the proportions named :—

Of 1.0 iron by hydrogen containing 1.000 pure iron was dissolved	0.102 pure iron.
Of 1.0 iron filings	1.000 “ “ “ “ 0.070 “ “
Of 1.0 of protosulphate of iron	“ 0.210 “ “ “ “ 0.056 “ “
Of 1.0 protocarbonate of iron	“ 0.490 “ “ “ “ 0.050 “ “
Of 1.0 persulphate of iron	“ 0.250 “ “ “ “ 0.046 “ “
Of 1.0 lactate of iron	“ 0.190 “ “ “ “ 0.040 “ “
Of 1.0 protochloride of iron	“ 0.430 “ “ “ “ 0.036 “ “
Of 1.0 tartrate of iron and potass	“ 0.210 “ “ “ “ 0.022 “ “
Of 1.0 oxide of iron heated to red heat	“ 0.700 “ “ “ “ 0.016 “ “

“Forty parts of scaled or dialyzed iron from which water had been withdrawn without aid of heat was levigated very fine and placed in an artificial gastric juice prepared as follows : five parts hydrochloric acid and acetic acid, fifteen parts of pure pepsin, with traces of chlorides of sodium, potassium, and ammonium ; also phosphates iron, lime and magnesium in one thousand parts of water ; and temperature was maintained at 100° F. for five hours, then filtered through a “tared” filter, dried and weighed, showing a loss of iron amounting to fifteen parts. This shews that 3.00 grammes of scaled dialyzed iron (containing 1.5 grammes pure iron) are soluble in two hundred grammes of gastric juice.

“Having thus compared the properties of dialyzed iron with other well-known preparations, I will report five cases only, in which I observed its effect upon the globular richness of the blood. These were cases of simple anæmia uncomplicated by organic disease, and none of the individuals were placed upon any regimen of diet or exercise, but were allowed to continue the usual habits of

life. My object was to prevent the error of attributing any improvement in health or appearance to an improved diet, or to the more favorable effects of fresh air and exercise. I selected those cases in which I could personally observe the individuals from day to day, and could note any peculiarity of symptoms or unusual mode of life. The instrument which I imported from London was so inaccurate that I was forced to abandon it, as well as the reports of three cases in which it was used, and obtained from Prof. W. A. Rogers, of Harvard College Observatory, some very accurately ruled glass slides. I also procured some pipettes, and carefully estimated their capacity, so that I could place more reliance upon their measurements.

"*Case I* is that of a woman whose appearance was anæmic, and, as far as I could learn, had no organic disease. An earlier examination of blood had shown about 3,900,000 corpuscles per c. mm. of blood, but this negative was unfortunately lost. I have estimated in this 4,189,000 corpuscles per c. mm., or about eighty-three per cent. of the normal state of health. At first she took her medicine quite regularly, and in ten days gained 171,000 corpuscles, her blood having attained a percentage of eighty-six. The following six days she took the medicine very seldom and lost 500,000 corpuscles, and was in the same anæmic condition as before treatment, having a percentage of seventy-six. From this time onward she took the medicine more faithfully, but still omitting one dose about every two or three days, and in five days regained 440,000 corpuscles, having now a percentage of eighty-four. In another week she gained 60,000, and in four days more 160,000, having then a percentage of ninety-six.. In the whole period, from December 11th to January 10th, this patient showed an increase of 1,000,000 corpuscles, or an improvement of twenty per cent. During the whole time she was under observation she menstruated twice, but apparently with very slight effect upon the globular richness of the blood. None of these prints, Nos. 5, 6, 7, 8, 9, 10, 11, were taken during menstruation.

No. 5.	December 5th,	4,189,000 or 83 per cent.	
No. 6.	" 13th,	4,360,000 or 87 per cent.	
No. 7.	" 19th,	3,850,000 or 77 per cent.	(Has taken iron seldom.)
No. 8.	" 24th,	4,240,000 or 84 per cent.	
No. 9.	" 31st,	4,630,000 or 92 per cent.	
No. 10.	January 6th,	4,820,000 or 96 per cent.	
No. 11.	" 10th,	4,860,000 or 97 per cent.	

“*Case III* is that of a young woman about twenty years of age, pale and thin in appearance, who has at previous times been much improved by a ferruginous tonic treatment. She complained of languor, dizziness, muscular fatigue, cold, moist hands, painful menstruation, etc. Estimates from prints :—

No. 17.	December 17th,	3,709,000, or 74 per cent.	(Began treatment,)
No. 18.	“ 31st,	4,709,000, or 94 per cent.	
No. 19.	January 15th,	4,200,000, or 84 per cent.	(Having a headache.)
No-20.	“ 17th,	4,600,000, or 92 per cent.	

“ Apparently, on January 12th, her headache caused a diminution in globular richness, and for the sake of comparison I show print No. 21 of my own blood, taken during a headache ; ordinarily my blood shows over 5,000,000 corpuscles per c. mm. ; the number estimated by this print is only 4,350,000.

“ *Case V.*—A married woman, who has had chlorosis and anæmia for several years, her appearance being white and bloodless, has been a patient of Dr. Sabin’s for two years, and her chronic anæmia has been a marked feature ; apparently she has no organic disease other than this impoverishment of blood. Figure 27 indicates that the globular richness of blood is only 3,500,000, and at that time she began treatment by dialyzed iron. On one of the last days of February she had diarrhœa, with some catarrh of intestines, which was controlled in two or three days by ordinary doses of morphine and chalk mixture. On March 3d, after a fortnight’s use of the solution of dialyzed iron (Figure No. 28), her globular richness had improved to 3,560,000 in spite of the diarrhœa. On March 19th another examination showed 3,600,000 corpuscles per c. mm.

“ There is certainly good reason for saying that four or five cases are insufficient to establish definitely that the solution of dialyzed iron cures anæmia. However, an analysis of the history of these cases shows that all the individuals were in comfortable circumstances, as far as food, clothing, and homes were concerned ; that none of them had any organic disease (if we accept simple impoverishment of the blood) ; that they were aware of being out of their usual health ; that they were unable to accomplish their regular work ; that none had impaired appetite, nor feeble digestion ; that three of the four suffered from neuralgia or headache ; finally all had diminished corpuscular richness of blood, varying

from 3,350,000 to 400,000,000, and that under the continued use of ninety drops of solution of dialyzed iron per diem this condition of impoverished blood was replaced by an increase in the number of corpuscles, from 3,600,000 to 4,900,000, and the symptoms of ill health simultaneously disappeared with this improvement.

“Dialyzed iron may increase the globular richness of blood, but it may have no effect in bringing about the chemical combination of oxy hæmoglobin. If the supposition be true that there is a state of ill-health in which the corpuscles may be numerically normal, but may simultaneously be deficient in coloring matter, we may conceive of an anæmic or chlorotic patient who may require some therapeutical means for improving this deficiency other than simple iron. I may have been extremely fortunate in selecting just those cases in which a simple form of iron was indicated, and it may not be impossible that another form would have benefited my cases as much as the dialyzed iron; yet the latter is preferable to the more astrigent iron salts, because it does not impair the digestion, nor produce constipation.

“I cannot close my communication without an expression of thanks to Dr. Sabine and my laboratory assistant, Mr. J. G. Hubbard, whose material assistance lent much to the value of the record of these experiments.

“Now, one final word about the various solutions of dialyzed iron. Many of these solutions are valueless, some are very dilute, and a few are of pretty uniform standard, and contain only the products of dialysis from a salt of iron and distilled water. If physicians use a worthless preparation, they need not expect an improvement in the *anæmia*; if they use a dilute solution, they must prescribe a larger amount of the secretion. In the preparation I used for these experiments the solution had a specific gravity of 1042, and had no free acid.

Dr. Amory in a note to Messrs. Wyeth & Bro., dated Longwood, Mass., April 9th, 1879, says that in the experiments above detailed, he used only the dialyzed iron manufactured by that firm.

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The office of the NORTH CAROLINA MEDICAL JOURNAL and North Carolina Board of Health has been removed to the corner of Chestnut and Second Streets, opposite the Post Office.

## FLINT ON THE SOURCE OF MUSCULAR POWER.

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Dr. Flint discusses the question as to whether the muscular power manifested by man and animals is the direct product of the metamorphosis of the elements of food ingested, or is generated by changes in the muscular tissue itself. In the latter case, the muscular substance as such is destroyed, and is discharged from the body in the form of excrementitious matter, whilst the waste is repaired by food. In the case of a steam engine, the latent energy of the fuel is developed into heat by combustion, and the engine itself serves merely as a convenient mechanism for translating the heat into actual working force. In like manner, according to some physiologists, the muscles and active organs of the body are merely a convenient mechanism for translating into force the latent energy of the food which is devolved during the metamorphosis of digestion and assimilation. In opposition to this theory, Dr. Flint analyses some observations made by Dr. Pavy upon Weston and other pedestrians, and shows that the estimated force value of food was sufficient to account for only a small fraction of the muscular work actually performed. By a further analysis of some observations of his own, Dr. Flint concludes that the true origin of muscular power must be sought in the muscles themselves, and that the exercise of these muscles produces a waste which is measured by the nitrogen excreted. Indirectly the nitrogenized food is a source of power by repairing waste and devolving capacity for work; but food is not directly converted into force in the living body, nor is it a source of muscular power, except that it maintains the muscular system in a condition for work.—*London Medical Record*.

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## DR. BEARD IN THE HANDS OF HIS BROTHER SPECIALIST.

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In the *London Medical Record*, of September 16th, Dr. Julius Althaus reviews the well-known and widely distributed papers by Dr. George M. Beard, entitled "Neurasthenia," and, "Other Symptoms of Nerve Exhaustion."

Dr. Althaus might well devote his energies to another and less explored field of pathology.

The reviewer continues : "If one and all symptoms of nerve-fatigue, which occur in daily life, temporarily after over-exertion, or habitually in debilitated persons, are to be made the subject of a lengthy kind of a *causare*—for no other word is applicable to it—this kind of medical literature is indeed practically illimitable.

"No doubt we have all occasionally felt a distressing feeling in the stomach when empty, only by eating ; and we have probably all noticed a person gaping and yawning after long reading a newspaper, though no other evidence of weariness annoys him ; but is it really necessary at the present day to bring such subjects prominently under the notice of the profession ?"

He speaks of Dr. Beard's word coining as etymologically bad, and moreover, perfectly sure not to be adopted by the profession.

"The same vagueness which we have noticed in the author's *chatting* about symptoms, is perceptible in his remarks on treatment. Of what use it to tell us that the following are the chief agents in the treatment of neurasthenia ?—"Electricity in the methods of general faradization and central galvanization, arsenic in its different forms, as Fowler's solution, and chloro-phosphide, arsenite of strychnia, ergot, cannabis indica, all the bromides, quinine, iodide of potassium, digitalis, calabar bean, conium, gelsemin, belladonna, malt, oil, phosphorus, strychnine, iodoform, cimicifugin, kumyss and the salts of zinc ; counter-irritation, mental therapeutics, massage, ice-bags and hot-water bags and hydrotherapy in the form of hot, warm and cold baths, Russian baths and douches" ; or that "individual idiosyncrasies must be religiously respected, and when we find one cannot bear gelsemium or belladonna, for example, we can fall back on other remedies ;" also that "Medical treatment to be surely effective must be combined with hygienic treatment." These are platitudes which can only be excused in taking to first year's students, but should not be brought forward as contributions to the therapeutics of nervous diseases."

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*Rapid Cure of Coryza* is reported to be effected within an hour by chewing one or two dried leaves of eucalyptus. It has no effect in chronic cases.



## DISEASED ANIMALS AND BAD MEAT.

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The recent convictions before the metropolitan magistrates for the hawking of uneatable meat about the streets remind us of a little pamphlet just published by Mr. Francis Vacher, Medical Officer of Health for Birkenhead, "On the Diseases of animals which do not necessarily render them unfit for food." In this interesting and instructive *brochure* Mr. Vacher classes the diseases of animals under three heads: (1) Those which render the meat unfit for the food of man; (2) Those which depreciate the quality of the meat, or make it preternaturally liable to decompose, but which do not necessarily, except in their latter stages, render the meat unfit for food; (3) Those which do not depreciate the quality of the meat or increase its liability to decompose, and rarely render the meat unfit to be eaten. The diseases classed under the first head are cattle-plague, swine-typhoid, epizootic pleuro-pneumonia, sheep-pox, normal cow-pox, influenza, acute rheumatism, the scarlatina and quinzy of swine, splenic fever and anthrax, and the diseases known by the presence of cysticerci and trichinæ. The diseases under the second heading, and which in their latter stages may render the meat unfit for food are, foot-and-mouth disease, hoof-rot, tuberculosis, acute inflammatory disease of the lungs, intestinal canal or serous sacs, jaundice, cardiac dropsy, nephria, enthetic disease, and the three parasitic diseases of sheep due to the presence of the *cœnurus* in the brain, the *echinococcus* in the lungs and liver, and the *distomum* in the liver. With regard to the first-mentioned in this list, Mr. Vacher says, "If the carcase you are called upon to inspect has been the subject of epizootic aphtha only, even though the eruption be abundant on the mouth, feet, and udder, it is generally considered it may be safely passed. The flesh looks good, and is. 'It is frequently sold on a large scale, and as there is no instance of such food producing ill-effects, there appears to be,'" as Mr. Fleming observes, "no reason to interdict its use as an article of diet, so far as the production of disease is concerned. Mr. Vacher, however, mentions certain conditions under which a carcase should be at once condemned. With regard to tuberculosis, the writer would pass the carcase when the disease is uncomplicated and in an early stage, and when there are deposits in the thorax only. In the case

of such purely inflammatory diseases as pneumonia and pleuropneumonia, unless the disease is epizootic or far advanced, it affords no grounds for condemning the subject of it. But peritonitis, unless circumscribed, is usually regarded as sufficient ground for condemning a carcase. Cardiac dropsy confined to the serous cavities, and considerable of one or both kidneys, are also consistent with a tolerably wholesome carcase. With regard to that common disease in sheep called "the rot," and which owes its origin to the *distomum hepaticum*, or liver fluke, Mr. Vacher says, that in judging of carcasses from which flukes are removed, the simplest course is to take no notice of the flukes, but to look to the condition of the carcase. If the flesh is soft and, the fat wanting in firmness, if the muscles are much wasted, and the cellular tissue œdematous or emphysematous, and if the liver is knotty and friable, the sheep is not fit for human food. The consideration of the third class may be dismissed in a very few words, as the diseases mentioned are merely such trifling complaints as obviously would not render the meat unwholesome.—*Medical Press and Circular*.

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## PROFESSOR VIRCHOW'S INFIRMARY IN THE TROAD.

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When Professor Virchow paid, some months ago, a visit to the scene of Dr. Schlieman's excavations in the Troad, he expected to enjoy a holiday from professional work ; but he was very quickly undeceived on that point, and he has given to the world in his *Archiv*. some account of his unexpected medical experiences. He had hardly been a day at Hissarlik before several sick workmen were brought to him for treatment ; and the report that the new Effendi was a great and renowned *hakeem* spread rapidly. There is no medical man, or even a quack, in the Troad ; and consequently, sick and infirm people flocked in daily increasing numbers to Hissarlik from far and wide. There are no roads and no vehicles. So the people came on foot, or on horsaback, or riding on asses ; even women coming thus from a long distance. Very infirm people were brought in great baskets slung across a horse's back, sometimes one

on each side by way of balance. The patients used to range themselves in a long row, opposite the wooden hut in which Virchow lodged, each waiting patiently until his or her turn came. The majority were Greeks, from the Greek towns and villages near the coast; but there were also Turks and Bulgarians gipsies, Armenians, and even Persians. It is easy to understand that the difficulty of communication was not inconsiderable in this conglomerate of nationalities; and not unfrequently the services of more than two intermediary interpreters were necessary to enable the physician to understand what the patient wished him to know, and to convey back his instructions. Most of the maladies were of the malarial fever type; for the Trojan plain, with its great swamps, is a choice abode of malaria. Professor Virchow declares that he found his patient quite willing to obey his instructions, even when they ran counter to their susceptibilities and usages. Medicine had to be fetched from the Dardanelles, and the supply was precarious. Fortunately, he had in a small medicine-chest of his own, and in the larger boxes of Dr. Schliemann, nearly every thing he wanted. He found the people very grateful in their own simple way. They found he loved flowers; and every morning quantities of flowers used to be brought to his hut. For geological purposes he had had an excavation made in the old bed of a stream now dry, and by his directions the men dug until water rose. Dr. Schliemann writes to Virchow that the inhabitants "regard the excavation and spring with veneration, and have fenced it around with stones. The spring is called 'the doctor's well,' and magical virtue is ascribed to it. Every one comes to draw water from it."—*Med. Times and Gazette*.

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#### AMERICAN PUBLIC HEALTH ASSOCIATION.

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As a matter of interest not only to sanitarians but to the public generally, the executive committee of the National Board of Health considers it proper to give a place in the columns of the *Bulletin* to the following announcement of a proposed discussion on yellow fever at the next meeting of the American Public Health Association to be held in Nashville on the 18th to the 21st of November,

the executive committee being authorized to publish such notices "in medical, scientific, and other periodicals, but without expense to the association :"

#### ANNOUNCEMENT.

The executive committee of the American Public Health Association has decided to supplement the discussion on certain points relating to *city sanitation* heretofore ordered for the Nashville meeting and announced in the President's circular of August 15, by one on the practical questions connected with the management of an actual or threatened outbreak of yellow fever. It is considered proper that the whole country should have the benefit of the practical lessons taught by the epidemic visitation of 1878 and 1879, and it is fit that the popular diffusion of this knowledge should be made through the medium of this association, which will have an unusually favorable opportunity at the meeting in Nashville, November 18-21, for collecting and recording the conclusions of intelligent and skilled observers as to the practical working of the measures recently put into operation by State and municipal authorities, aided by the National Board of Health, with a view to prevent the spread of the disease from local sources of infection.

The oral discussion will be prefaced by the reading of several papers by members of the Association who have been actively engaged in this practical work during the prevalence of the existing epidemic in Memphis and elsewhere. In order to give definite direction to the discussion the executive committee has adopted the following schedule of the points to be especially considered :

1. How to deal with a city in the yellow fever zone in order to prevent the appearance of a first case.
2. How to prevent the importation of a first case.
3. How to deal with a first case and early cases generally when, in spite of precautions under first and second headings, it has made its appearance.
4. The duty of local Boards of Health, or other health authorities to report such cases promptly, even though there may be some doubt as to the diagnosis. Whether the knowledge that such reports would be faithfully made would not have a tendency to allay apprehensions and give confidence to other communities while warning them of the importance of making preparations for contingencies.

5. Under what circumstances may it become necessary or expedient to remove the unacclimated portion of the population from an infected place? How may this be effected for the poorer classes of the population, and how should the people thus removed be cared for and supported?

6. Measures for isolating a dangerously infected place.

7. Organizations for the relief and treatment of the sick in an infected city.

8. Measures for preventing the spread of the disease from an infected place by railroad, including the management of transfer stations.

9. Inspection of steamboats at an infected place and at intermediate stations between the port of departure and their final destination. Should stations of observation be established by the National Board of Health? If so, what should be their relations to the health authorities of the States within whose territorial limits they may be established?

10. Results of the coöperation and aid given by the National Board of Health to State and municipal Boards under the provisions of the act approved June 2, 1879. What suggestions may be made to render this system more efficient?

J. L. CABELL,

President American Public Health Association.

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## DERMATITIS VENENATA ; OR RHUS TOXICODENDRON AND ITS ACTION.

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This paper reminds most of us of the well-known, but easily forgotten things about poisonous ivy, and other plants whose touch or effluvia produce dermatitis.

The popular description given of the plant is quoted as a reminder.

“The poison ivy vine bears many resemblances to our common woodbine, or Virginia creeper. The easiest way to distinguish them is to remember that the former has but *three* leaflets, which grow on long, semicylindrical petioles, while the latter has *five*. I have more

than once taught children to remember that a vine which has a leaf for the thumb and each finger of one hand is safe for them to handle ; otherwise they should avoid it."

The character of the specific poison is as follows :

" With regard to the nature of the poison, there can be no doubt now that it is owing to a volatile acid to which has been given the name of *toxicodendric acid*. It has strongly acid reactions, completely neutralizes bases, forms with excess of oxide of lead a soluble salt, precipitates with soluble salts of lead an insoluble toxicodendrate, and separates metallic gold from a warm solution of its chloride. Potassium permanganate is readily reduced by it (Stillé). It resembles formic and acetic acids in many of its reactions, but does not produce a red color with neutral ferric salts. It was first investigated by Dr. Khittel in 1857 (*vid. Amer. Journ. of Pharm.*, 1858), and was more thoroughly examined by Prof. Maisch (Proceedings of Amer. Pharm. Association, 1865)."

On the subject of treatment, we have a resumé of the remedies which have been found useful. The only apparently original suggestion of the author is the employment of camphor chloral. He has found nothing that excels it as a local sedative to relieve intense itching.

Dr. A. G. Smythe in the *Medical Record*, calls attention again to his remedy—sulphite of soda.

[We have had recent opportunity to try *all* the remedies enumerated, and none of them succeeded. We are ready to try anything else suggested.—Eds.]



## THE COLD BATH AND AFFUSION IN HYPERPYREXIA.

By J. LUCAS, M. D., F. R. C. S.

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The subject, a native soldier of an infantry regiment quartered at Malwa, young and of short service, but poor stamina or *vis nervosa*, was admitted into hospital on October 1st last, for fever with pulmonary complication. The latter was soon subdued, but the

former continued and assumed a grave remittent type. The exhibition of quinine, subcutaneously and by mouth, had little, if any, effect in reducing the temperature, and thereby of preventing or checking the rapid metamorphosis and destruction of vital tissues in the system, which it was evident would yield and give way under the combustion. So I resolved to afford the patient, who was in the most critical condition, the benefit of a plan on the merits of which much has been justly and faithfully said and written, which is based as we know on sound and rational principles, and the results of which have been supported and confirmed by independent clinical observations.

On October 14, at 5 P. M., the axillary temperature\* was registered at 102.8° F. At my visit, half an hour thereafter, it was again taken and found to stand at 103° F., with a quick, full, and somewhat wiry pulse, and rapid and heaving respiration. The plan I adopted was the following:—The patient was undressed, and a sheet bandaged round the body (from the neck and shoulders down to the perinæum); this done, he was lifted bodily, put in a recumbent posture in a bath placed at the bedside, the temperature 80° F., and a piece of cloth dipped in the same water was tied round the head (the object being to prevent determination of blood to it); and the water-carrier was now directed to pour from his leathern bag, a small but continuous stream over the entire body. This was done for about eight minutes,† during which the pulse was watched. The patient was then dried, flannel cloths, etc., put on; he was lifted‡ and replaced in bed, and covered with warm blankets.

The thermometer, two minutes after his being put back, stood in the axilla at 97° F.; the pulse was less full and decidedly slower; and his breathing was likewise easier. There was no shivering or other untoward symptom; and before I left the hospital I caused the following draught to be given, with instructions that he should be carefully watched through the night, and fed at short intervals with drinks of cold milk:—℞. Vini rubr. ʒ ss.; spt. ammoniæ

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\*According to my experience, after taking the temperature of over 500 native adults (both meat-eaters and spare vegetarians), the average normal temperature is 97.4° F., in India.

†In some of the subsequent immersions it was prolonged to even thirty minutes.

‡After some days, the patient being not so weak, was allowed to go in and out of the bath with little or no help.

aromat. m x. ; quininæ sulphat. grs. xv. ; aquæ cinnamoni ʒ jss. It would be interesting to add here that the temperature of the water immediately after the patient was removed was 84° F.—*id est* it, (according to physical laws) gained 4° F., while simultaneously the patient lost 6° F. of intrinsic heat. After some of these immersions, as much as fifteen, twenty and forty grain doses of quinia were administered to assist in the objects in view :—

[The temperature record for seven days shows a fall of temperature after the immersion of the patient, varying two to five degrees.]

These cold baths were continued for seven days. The number of times a day they were repeated was in the main regulated by the height of the temperature ; and, as a rule, they were resorted to whenever it rose above 100° F. (2.4° above normal). On October 22, there being some bronchitic symptoms, the baths were discontinued, and in their place, under similar circumstances, injections of cold water per rectum were substituted, with the results under-mentioned.

[The variations in temperature after the injection of water per rectum were from .2° to 2° F., the observations extending over eleven days.]

During this time, with these injections, which were continued until November 6th, it was found necessary to administer scruple doses of quinine thrice in the four-and-twenty hours. There was some tolerance of the drug, and the symptoms designated quininism were but slight ; it is, perhaps, also worthy of note that the cold injections produced no evil effect in causing intestinal catarrh. During the critical period of the case the temperature was registered as often as eight times a day ; but it is unnecessary to publish those details.

The case terminated in recovery, and the patient gained flesh steadily, though slowly ; and during convalescence he was taking a ferruginous mixture in a decoction of margosa or neem.\*

*Remarks.*—Had the patient's vital powers been lower than they were, and the maximum temperature much higher than it was, I would still have had recourse to the cold bath in a similar manner, but would have taken the precaution to administer a diffusible stimulant prior to the immersion, and would also have made the

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\**Vide* Dr. Waring's "Pharmacopœia of India," page 53.



bath and affusion more graduated (the temperature of the water lowered by degrees).

I would, however, not be understood to say that the mere employment of cold in the hot stages of malarial and other fevers will *per se* effect recovery, or in any way to depreciate the admirable virtues of quinine. The favorable result obtained in these cases by the repeated reduction of the high temperature is, in my humble opinion, of as much consequence as the reverse is in the curative process of cholera and allied affections, where our indications are to restore the lost heat; and this may be done by warm or even hot baths, injections of warm liquids (beef-tea, with or without alcohol, etc.) per rectum, bladder, and perhaps also hypodermically (which will, I fancy, relieve the cramps); while thus by gaining ing time by the, though but partial, restoration of absorbing powers, and by rendering the system more susceptible to external impressions, our specific and other remedies and aliments (whether we are treating a case of remittent fever, sunstroke, enteric fever, or cholera) will, *pro tanto*, have greater effect.

I have also to express my assent with those observers\* who believe, like myself, that the suppression of the action of the sudoriparous glands bears little or no relations to the keeping up the temperature of the body; for I have not unfrequently, like them, been struck by the observation that, with a moist or even profusely perspiring skin, the clinical thermometer made clear beyond doubt this deception. And it may be said that had it not been for the laborious investigations of such men as Drs. Wunderlich, Parkes, Ringer, and others, to whom we are especially indebted for the light thrown by them on this previously and until very recent date unexplored field, in which still many a point remains undetermined, our knowledge would have been far short of its present stage, nor would there have been, as there now is, the promise of still further advance and perfection.—*Medical Times and Gazette*.

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*M. Chassaignac*.—The death of this famous surgeon, which occurred at Versailles, will bring to mind many of the important surgical devices of which he was the originator.

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\*As notably Dr. Sidney Ringer, *vide* his article in the *Lancet* of 1878, vol. ii., pages 473, 474, and other contributions; see also this author's "Handbook of Therapeutics."

## IODIDE OF POTASH AND CALOMEL IN OPHTHALMIC PRACTICE.

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It has long been claimed that if calomel is dusted in the eye during the administration of the iodide of potash, the mild chloride is converted into the corrosive in the cul de sac, and great irritation of the conjunctiva results.

A day or two should be allowed to elapse after the last dose of the iodide before the calomel is used locally. Dr. W. Schlarfks (Göttingen) formulates his recent investigations as follows :

1. The fact that calomel, during the internal use of the iodide of potash, excites violent inflammation in the external parts of the eye, has been repeatedly established clinically, is as often forgotten and seems likewise to be very little known.

2. The iodide of potash, taken internally, spreads rapidly through the system, enters in a very short time the various secretion and excretions, and appears in a very few minutes in the tears.

3. The iodide of potash, in 0.5 gr. ( $7\frac{1}{2}$  grains) doses twice a day, is constantly present in the lachrymal secretion.

4. Calomel is only very slightly soluble in water, ten times as much so in a  $\frac{3}{4}$  per cent., salt solution.

5. Calomel powder dusted in the cul de sac of the conjunctiva is gradually dissolved as such in the continuous stream of water, in this way acting chemically.

6. If calomel is dusted into the eye when the iodide of potash is present, the iodides of mercury are found.

7. Both act as a caustic, since they become soluble by the presence of salt or potash, and excite violent inflammation.

Therefore, 8. The external use of calomel must be abstained from so long as the tears contain the iodide.—*Archiv. f. Ophthalm.*, Vol. 25, part 2, 1879.

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*Method for Performing Post-Mortem Examinations.*—An extra edition is issued of this manual, that the numerous applications for it may be complied with. Send three letter stamps to the office of the JOURNAL.

## NEW PREPARATIONS:

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A monthly Journal of Medicine devoted to the introduction of New Therapeutical Agents. Edited by Wm. Brodie, M. D., \$1.00 a year.

We have been especially attracted by the appearance of this journal for September. It shows every evidence of vigorous life. The material is excellent, and the mechanical execution of it all that could be desired.

There must necessarily be a great deal of crude reporting and writing about new remedies, as for the most part many of them are utterly worthless. The discriminating skill of an editor on work of this sort must be put to the trial frequently. Dr. Brodie does his work with progressive good judgment, and we bespeak for him a great many new subscribers, as we can say to them, they could hardly invest a dollar in a better way.

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*A New Digestive.*—The American profession by long-continued fault-finding in regard to the character of pepsin sold to them, stimulated the producers of it to bring the article up to a reliable standard. For several years American pepsin has been relied on with confidence, and its use has been almost universal. It seemed as if there was no room for improvement, until Lacto-Pep'in (ought it not be Lacto-Pepsin) was brought to the attention of the profession. Now the quantity of this preparation sold must be enormous, for even the old physicians who dislike innovations are willing to substitute lacto-peptin in their powders for summer-complaints of children, in lieu of the old-fashioned blue chalk and pulvis sorbens.

We have had great satisfaction in the use of lacto-pepsin, combined with bismuth, in the chronic diarrhœa of broken-down sailors, and in the copious diarrhœa of children. In atonic dyspepsia it has exceeded our expectations, giving relief to the patients, and comfort to the doctor who had puzzled his brain to find the right thing. The materials entering into this compound, judging by the results, must be of the best quality.

## MEDICAL ANNOTATIONS.

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We are pleased to see by the report of Dr. John L. Meares, Health officer of San Francisco, that the death of that city has been materially reduced in the last year. This speaks well for the energy and vigilance of Dr. Meares, and is another proof of the progress sanitary science is making.

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*Famous Tooth-Pulling with a New Anæsthetic.*—Dr. John Bull has at last succeeded in extracting an ivory tooth from the famous savage chieftan Cetywayo, measuring seven feet in length and about a half a yard in circumference at the girth. No anæsthetic was administered but gun-powder.

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*Early Inhalation of Ether.*—Dr. Sexton calls attention to the fact that as early as 1829, Mr. Wm. Wright, a London aurist administered ether by inhalation to allay the irritation of the meatus which prevented the examination of the ear, and to allay the cough induced sometimes in its examination.

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*Cetraria Islandica.*—We are in receipt of handsome specimens of this lichen, formerly so much esteemed for its medicinal virtues, from the mountains of North Carolina. In the same package we received some other beautiful specimens, that would incline the botanist to leave all and add them to his possessions.

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The Seven Springs Iron and Alum Mass has been before the public for a long enough time to establish its merits; and to those of our readers who have not yet tested this remedy we advise them to satisfy themselves about it. It is an alterative and tonic, and will give good results when applied to the various diseases which follow in the wake of malarial fevers.

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*Two New Metals.*—*Sammarium* and *Norwegianium* are announced as having been discovered by Prof. Tellef-Dahl, of the University of Norway. The discoveries were made by means of the spectro-scope, and were found in the rare North Carolina mineral known as *samarskite*. Mitchell county, in this State, we are informed by Professor W. C. Kerr, the State geologist, furnishes the cabinets of the world with specimens of samarskite, as only minute specimens have been found in Russia.

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*Recurrent Vesical Calculus.*—Prof. T. G. Richardson, of New Orleans, (*Medical and Surgical Journal*, October), operated on a patient for a bullet in the bladder in 1865, and in 1879 the patient

returned with another calculus, which after being removed and crushed, a thread was found to be the nucleus around which it had formed. Dr. Richardson thinks the thread was carried into the bladder by the missile, being entangled in the cicatrix at the time of the first operation, but becoming loosened afterwards, and so did the mischief.

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*Dilute Sulphuric Acid in the Treatment and Prevention of Cholera.*—Dr. MacCormac, of Belfast, in a letter to the Secretary of State for India, calls attention as a matter of public duty to his success in preventing and treating cholera with dilute sulphuric acid. The plan which gave him such great success, arresting almost immediately the spread of the cholera was to give sick and well a drachm of dilute sulphuric acid in a small cup of peppermint water. As soon as they came under the influence of the acid which was immediately, no other case appeared.—*Medical Times and Gazette*.

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Dr. Bulkley will give a third course of lectures on "Diseases of the Skin" in the Pathological Amphitheatre of the New York Hospital, 7 West 15th St., Wednesday afternoons from 2:30 to 3:30 Commencing Wednesday, October 8th, 1879. The Lectures will be Didactic and Clinical in character, going over the entire subject of Diseases of the Skin, (including syphilis) and will be freely illustrated by colored plates, photographs, life-sized models, the black-board, and abundant clinical material. The pathology, differential diagnosis, and treatment of diseases of the skin will be especially considered. The course will consist of twenty-four lectures and will be free to practitioners of medicine and medical students.

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*Gun-Shot Wound of the Uterus, the Bullet Traversing a Six Months Fœtus—Recovery.*—Dr. Geo. A. B. Hays, of Plaquemine's Parish, reports a case in the *New Orleans Medical and Surgical Journal* for October, in which a ball weighing 136 grains penetrated the abdominal cavity at the left side, about two inches in front and above the anterior superior spinous process of the ileum, ranging upwards, and lodging in the abdominal cavity. The woman was a six months pregnant primipara. Labor pains set in the next day and the woman gave birth to a fœtus, examination revealing that the ball had penetrated beneath the left scapula, ranged diagonally through the trunk a distance of about three inches, and made its exit in the right hip. Puerperal fever set in with peritonitis, but the patient was dismissed, well, in a month after the injury was inflicted.

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*Offenberg on Curare in Hydrophobia.*—Dr. Offenberg, of Munster, has lately treated with curare a woman who had been bitten by

a mad dog. He did not confine himself to the usual small doses, but injected about two decigrammes of curare under the skin in the course of five hours. The patient was in a terrible state, and seemed on the point of being suffocated when the injections were made. After the first injection, the convulsions ceased suddenly. This was owing the power which curare has of paralyzing motion. After a short pause, however, the convulsions began again, and several additional injections had to be made. At last the effects of the curare became so powerful that the patient was in danger of dying of paralysis of the heart and the respiratory muscles, and could only be saved by artificial respiration. She then fell into a state of exhaustion and weakness, from which she recovered after a time, and became quite well.—*London Medical Record*.

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*Quotations from the Talmud on Medical Matters.*—Mr. Magnus, Sen., of Berlin, publishes in the *Deutsch. Archiv f. d. Geschichte d. Medicin* (1879, p. 240) the following passages from the Talmud :

At the head of all diseases am I, the Blood ; at the head of all remedies am I, the Wine.

Eat hearty : You will feel its effects when walking.

A drop of cold water mornings (in the eye), and washing the hands and feet in the evening, are better than all eye-salves.

Before a distant physician may arrive, the eye may become blind.

Badly off is the town whose physician has the gout, and whose oculist only has one eye.

Honor the physician before you need his services.

*A physician who makes gratuitous cures is of no account.*

The door, which is closed to prayers for alms, opens for the physician.—*Canadian Journal of Medical Science*.

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*Late Suggestions on Ozæna.*—Dr. Frankel, in Virchow's *Archiv*, gives a number of cases which he thinks will confirm the views of those who believe that ozæna always owes its origin to a dyscrasia—two of his patients were phthisical, two syphilitic—but does not believe, though admitting the frequent coincidence of ozæna with pharyngitis sicca, that both the diseases are in casual connection with each other.

In an Italian contemporary, Dr. Massei, starting from the theory of a parasitic origin of ozæna, recommends the following treatment : *a.* Gradual dilatation of the obliterated nasal passages by means of elastic bougies ; *b.* Clearing and disinfection of diseased regions by a very weak solution of salicylic acid (1 part 500 parts of water), applied by means of a syringe ; *c.* Modifying local medication, by blowing calomel powder through a nasal speculum on the ulcerated surfaces. The author says that there is always an arrest in the process of healing at a certain period, but advises strongly not to give up this treatment, but to continue it patiently until total cure is obtained.

In the *Memorabilien*, Dr. Dawosky describes his successful treatment of that form of ozaena called *punaiste* (in German, *stinknase*). He carefully removes all crusts, washes the mucous membrane with a two per cent. solution of silver nitrate, and every evening tampons the nostril with a plug of charpie as thick as the finger, moistened with glycerine and that thickly dusted with powdered alum. In the morning this is removed and nostril washed with injections of permanganate of potash or zinc, in weak solution. The odor soon disappears, and by persistence a cure is effected.—*Med. Press and Circular*.

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*Puerperal Thrombosis*.—I will not intrude upon you other analogies. Many will present to your minds. I will only hint at the close pathological relations between these cases of so-called phlegmasia dolens in childbed women and septicæmic puerperal fever, pelvic cellulitis, and pelvic peritonitis and inflammations of other serous membranes. Phlegmasia dolens may be taken as the type of what I long ago proposed to call the “autogenetic” puerperal fever, in contradistinction from those fevers which owe their origin to empoisonment from without, the “heterogenetic” fevers. But we must not forget that phlegmasia dolens may ensue upon the ingestion of foreign poisons. The great clinical lessons illustrated and enforced by the very imperfect remarks which I have been invited to submit to you are these: 1. The origin of phlegmasia dolens in lying-in women can mostly be accounted for by processes springing up in her own system. 2. The blood of the recently delivered woman is in a state of highly prone to coagulate. 3. It will coagulate when it is invaded by effete materials or septic matter in undue proportion to the excretory power of the system. 4. Such undue proportion will accumulate when the free action of the great excretory organs, the breasts, lungs, liver, kidney, skin, and mucous membrane of the intestines is greatly impaired by chronic antecedent imperfection, or is suddenly checked under the influence of cold, emotion, or other form of shock. To anticipate these causes, to prepare and keep the glandular system in good working order, to prevent the accumulation of poisonous matter in the blood, is the obvious indication, one which we ought to be able in most instances to carry out. The theories or hypotheses of thrombosis arising under conditions other than puerperal must be in harmony with what is observed in puerperal thrombosis.—*Dr. Barnes in Brit. Med. Jour.*—*Canadian Jour. Med. Science*.

## BOOKS AND PAMPHLETS RECEIVED.

Emotional Prodigality. By C. Fayette Taylor, M. D. Read before the New York Odontological Society, March, 1879. Reprint from the Dental Cosmos.

Mechanical Treatment of Diseases of Hip-Joint. By Charles Fayette Taylor, M. D. Reprint from the Boston Medical and Surgical Journal, March 6th, 1879.

Report of the Special Committee on Medical Examination, before the Illinois State Medical Society, at its Twenty-ninth Anniversary meeting, held at Lincoln, May, 1879. E. Ingals, M. D., Chairman of Committee. Chicago: C. H. Blakely & Co. 1879. Pp. 13.

Dermatitis Venenata; or Rhus Toxicodendron and its Action. By Roswell Park, A. M., M. D. Reprint from Archives of Dermatology, July, 1879.

Weekly Reports of the Bureau of Vital Statistics of the City of New York. From Dr. John T. Nagle, Registrar.

The Sanitary Problems of Chicago, Past and Present. By J. H. Rauch, M. D., Chicago. Reprint from the Transactions of the American Public Health Association. Vol. iv. Cambridge: Riverside Press. Pp. 15.

On the Connection of the Hepatic Functions with Uterine Hyperæmias Fluxions, Congestions, and Inflammations. With appendix. By L. F. Warner, M. D., Boston, Mass. (Reprint from Transactions American Medical Association, 1878). Pp. 37.

Laceration of the Cervix Uteri. By A. Reeves Jackson, A. M., M. D. Read before the Chicago Medical Society, July 7th, 1879. Pp. 25. Reprint from Chicago Medical Examiner.

Southern Musical Journal, published by Messrs. Ludden & Bates, of Savannah, has many attractions. It has among the contents three pieces of music for the September number, viz.: "Let the Dead and Beautiful Rest," song and chorus; "Sensation Waltz," by Beckt and "Three Fishers," sung by Hullah. Subscription \$0.00 a year.

Proceedings of the Alumni Association of Rush Medical College, Chicago, 1879. The Alumni Association of Rush seemed to have had a good time judging from their account of it. Besides all their pleasant entertainment, they did not forget the serious matters, as the resolutions by Dr. Ephraim Ingols shows. They propose to increase the usefulness of Rush Medical College: First. By increasing the regular annual term of college instruction to a period of not less than nine months. Second. By requiring attendance on three full terms of medical lectures as a pre-requisite to admission to examination for the degree of Doctor of Medicine. Third. By instituting preliminary examinations for students who apply for matriculation to the school, and admitting only such as have at least a thorough English education.



# NORTH CAROLINA MEDICAL JOURNAL.

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M. J. DeROSSET, M. D., }  
THOMAS F. WOOD, M. D., } Editors.

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## ORIGINAL COMMUNICATION.

### DIGITALIS AS A REMEDY.

By W. C. McDUFFIE, Fayetteville, N. C.

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It is by critically investigating each member of the *Materia Medica alone*, by studying its therapeutical capabilities and its physiological aspects, its remedial virtues and its remedial action, that we are *certainly* enabled to know its value in our hands as a medicine.

This broad range of study, applied to any *one* article in therapeutics requires much perseverance, ample opportunity, and close observation. My experience has been, that to know a remedy *well*, I must watch its varied effects upon the same individual at different times, its power over the same disease in different individuals, and its adaptation to kindred diseases. All this can only be ascertained to a *nicety* by testing it *uncombined*.

I say this without regard to the principle of combination which nature itself, in many instances, has taught us, as the variety of virtues contained or combined in some of his own products—rhubarb, for instance, with its cathartic, tonic, and astringent properties; but I speak of it as bearing upon the *one* remedy, which we

are endeavoring to understand fully, and while no remedial agent is truly a specific, yet for conventional purposes the designation may be useful, and it is where diseases are circumscribed, that we have little need of variety—here simplicity of treatment should distinguish the course of the practitioner.

This, by way of exordium. The agent selected for the subject of this brief essay, is “Foxglove—*Digitalis Purpurea*”—a remedy familiar, doubtless, to all of you, and yet one, I believe, that has not received at our hands the attention its virtues merit, or the confidence in its powers, that close observation will surely afford. I have taken some pains to determine its proper place in the *Materia Medica*, and if any article has been unjustly dealt by, it certainly is this, for the reputation it attained at one time, was beyond its powers to sustain and secondly the heroic doses administered by some of its rash admirers, brought a disgrace upon it, that it has *never* recovered from—and that ranks it *high* in the catalogue of toxical agents. This, I verily believe, to be unmerited. I must be excused from going into the botanical history of this beautiful perennial finger-shaped plant, and hasten to discuss its properties, suffice it, that it is a native of Europe, but grows in this country being cultivated as an ornamental plant and for medical purposes. Much depends upon the manner of its preparation. All pharmacutists concur that the leaves should be gathered in mid-summer, dried and kept from light. When good, they are of a dull, green color, feeble narcotic odor, and bitter unpleasant taste.

There is a singular incident in its history, which is worth noticing. It was in the London *Pharmacopœa* in the *beginning* of the 18th century, but was omitted in 1746, and not reinstated until 1788.

Dr. Withering brought it before the profession as a diuretic, and it was, no doubt, owing to his success with it, that caused its restoration.

The properties ascribed to it by Wood, Griffith, and Ellis, *though true in the main*, are not, in my opinion, free from objection, because of the *order* in which they are given; for, whether designed or not, the inference is, that its leading property is narcotic. I object to this being understood as its chief quality, I look upon it as *preëminently sedative and diuretic*, its narcotic effects being manifested only when it shows its power as a poison.

I make this distinction between the two properties: *Narcotics* deaden sensibility and diminish motor-power, their full operation is upon the brain, producing sleep and coma. Opium, for instance.

*Sedatives* lessen the muscular tonicity and have a tendency to produce syncope, or a suspension of the functions. Blood-letting may very well be considered chief among them.

Physiologists describe the action of diuretics "to be sometimes manifested by stimulating the morbid capillaries to more healthy action, thereby preventing the undue effusion of fluids into serous cavities, and enabling the absorbent to carry back those already effused into the circulation to be discharged by the kidneys." "The blood is the natural stimulus of the kidneys and whatever it can convey to those organs, must more or less affect this natural function." Digitalis, I believe to belong to this division of diuretics operating through the vascular system; its beneficial effects being attained without bringing the system *decidedly* under its influence; hence not the narcotic but the sedative and diuretic powers were manifested.

I am convinced of its power to augment the quantity of urine in *health* and that it does not require, necessarily (as some have maintained) the "existence of dropsical effusion to render its diuretic operation perceptible," for in many instances I have given it where no disease, save functional palpitation from the excessive use of tobacco existed, and it not only acted as a sedative to the heart, but in every instance (where I made it a point to inquire) the urinary flow was augmented.

I began to use it in all cases of affections of the heart that came under my care, whether functional or organic. I have always adopted the plan of beginning with what I consider in the case a *maximum dose* and *decrease*, and here I will remark that in the use of this remedy for twenty years, I have never seen its full effects upon the system, or what may be called its poisonous effects, described by Watson and many others as deadly-faintness, frightful syncope, and even death itself.

True, I have been cautious and watchful, and have never carried the medicine in such preposterous doses, as are spoken of by some practitioners "from one drachm to three of the officinal tincture," &c., neither have I ever employed it, with a view to knocking down

acute inflammation, while I have more than once been alarmed at the depressing effects of *veratrum viride* in my own careful administration in pneumonia of children. I believe digitalis to be a powerful medicine and probably not a manageable remedy when it is given with a view to speedily affect the heart's action, which we might most desire in acute and serous inflammations. Here we may not be secure against its poisonous effects; yet Elliotson, Stewardson, Eberle, Dickson, and Dunglison speak of it as safe in much larger doses than I have risked "*after due depletion.*" They are referring to it, however, in acute inflammations. It is held to be cumulative and may *suddenly* produce its powerful control over the heart. Condie, Stewardson, and others who have not made any very extensive use of this agent suggest great care in its use upon this account, but while this *cumulative propensity* "may, and doubtless does lurk in the drug," may not as much be said of other valuable—yea, indispensable medicines—mercury, for instance; and while this peculiarity makes us more cautious than we would with a remedy like tartar emetic, which we carry to what we call "tolerance," yet we may with equal impunity use digitalis, if we begin high, and as before said, diminish the quantity as we see its beneficial effects.

*Rest* is said to be the *best* cardiac sedative in hypertrophy and aconite and hydrocyanic acid are to-day more highly extolled than digitalis in this particular form of disease. I am, nevertheless, persuaded that more lasting benefit can be obtained from the latter, than either of the former—for *while digitalis evidently reduces, the frequency of the heart's action it does not reduce its force. It gives tonicity to the heart.*

Aconite and veratrum, both control the heart but they diminish its *force* and therefore require the utmost caution in their use, and I contend, are not so well adapted for general application—*ceteris paribus*, as digitalis, even considered in the light of a controlling remedy; but it is to its positive diuretic powers that I wish to call attention.

I have recently had a most striking illustration of this in a case of general dropsy from dilatation of right auricle and distension effecting the *venæ-cavæ*. There was such irritation of the bowels in this case as to preclude the use of hydragogue cathartics, indeed

to require the use of laudanum. Dyspnœa was great; the patient could not lie down and the swelling was rapidly increasing. The urine scant and peculiar. There was an immense deposit of the most beautiful pink color. According to Elliotson this was "purpuric acid" and lithate of ammonia. By the usual tests the urine had an acid reaction, and was tested from time to time. This was the case when I began with the digitalis, 20 drop doses, repeated every six hours. In two days I saw an improvement, in eight days the deposit was no longer found in the urine, which began to come copiously. A perceptible arrest of the dropsical effusion and the violent pulsating of the arteries at the neck ceased. The kidneys acted with a well sustained vigor. The entire anasarca disappeared in three weeks. I reduced the quantity of digitalis to 10 drops three times a day, and in two weeks longer stopped it altogether. He is now in a better condition in every respect than he has been for the past four years.

This is a striking case where digitalis shows its power over the heart and kidneys, but probably not more so, than it does in dropsy following scarlatina, where I have found *no remedy to equal it, no remedy to be compared to it.*

Here as in all renal obstructions on scanty secretion of urine, "other metamorphic processes are going on in the body, abnormal condition of other secretions, when the system becomes loaded with products of the decomposition of tissues and the blood overcharged with deleterious constituents, if these are rapidly removed from the body by diuresis, we see a hasty convalescence."

Each year brings us more or less of scarlatina, and not a few of the cases affected with its sequelæ—renal congestion and dropsical effusion—worse than the original disease; here our best and surest diuretic is digitalis. Others may and do answer the demands very satisfactory many times, but not to my liking, comparable to this, given in doses to correspond with age, &c.

Thubauer and Vogel, in their recent valuable work on "Analysis of Urine" have cited, for benefit of physicians, many remarkable cases of cures affected by the rapid action of digitalis combined with acetate potash.

Combined and alone digitalis has been prescribed by many physicians and with benefit. They state, in insomania, epilepsy, emphy-

sema, asthma, pertussis and mania, and recommended as a specific in delirium tremens," but I would hesitate using it in the doses said to be requisite to quiet the patient. This practice, I would suppose, is hazardous. Diminishing the frequency of the pulsations of the heart, as it does, no doubt, by a direct sedative power. It is said to exert the same influences over the generative organs. Of this, I cannot speak from personal observation, but we may understand its *modus-operandi* here as elsewhere, by its controlling influence over the excited movements of the heart,—in this way it may be of advantage in aneurism and possibly in various forms of hemorrhage.

I must be pardoned for reciting a case I was called to a few years ago, in an adjoining county. A youth, 16 years of age, with congenital malformation of the chest—"pigeon-breasted" as it is called—who evidently had an organic defect about the heart. His father stated that never, since in childhood, could he exert himself in play without bringing on the most distressing symptoms of palpitation.

When I saw him he had undergone a long course of treatment without apparent benefit. His body and limbs were greatly swollen; his breathing most distressing, totally unable to lie down; cough was incessant and the heart's action irregular, obstructed, and very feeble; urine scant, and really he appeared to be near his end—considering his history.

I gave him digitalis, first and last, and at the same time, beef, wine and iron. He improved; taking the remedy for six months, become able to go about the plantation, and was so much better that he quit the use of the remedies. He lived about a year, when one night, being suddenly seized with cholera morbus, he fell dead on the floor, probably from rupture of the valves from over-distension. More recently I have succeeded in entirely relieving a case of dropsy where there appeared a mere functional disturbance of the heart. Phlegmasia dolens existed at the same time. I saw her a month after her confinement. I gave 20 drops, three times a day, of the tincture of digitalis, followed by iron. She did well; recovered with no other treatment.

I have once or twice resorted to its external use, not with the success, however, of Dr. Murchison, of London, who says, that "in a case of ascites, by fomenting the abdomen with an infusion

of the leaves, seven gallons of urine were voided in the twenty-four hours." My experience with this remedy has been singularly interesting, and while I might say much more in detail, I will not presume longer upon your patience, but in conclusion I will say that while candor compels me to admit some failures with it, yet I shall still hold, that properly administered, it is our best and surest diuretic and safest cardiac sedative.

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### BERGH ON ANTI-VIVISECTION.

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Dr. J. C. Dalton in the *Nation* of the 16th of October, shows that Mr. Bergh has reinforced himself in his newspaper anti-vivisection articles, by using the arguments from Fleming's prize essay on Vivisection, a freedom that would have been called plagiarism in a less polite age.

Mr. Bergh's quotation from Colin's "*Traité de Physiologie Comparée des Animaux Domestiques*," taken at second hand from Fleming's Essay, is made, to prove that the physiologist was opposed to vivisection. The parallel reading of the quotations shows that Mr. Bergh has greatly distorted Colin's meaning.

If the anti-vivisection war is to be transferred to this country, this beginning, we trust, is ominous of the future it deserves.

If Mr. Bergh really wants to make a sensation let him reproduce Ernst von Weber's "*Folterkammern des Wissenschaft*" with all the illustrations.

With such men as Dalton confronting him, he had as well be prepared for earnest and honest work.

We do not believe the good sense of the American public will forsake them long on this topic, although we anticipate that they will be treated to heart-rending accounts of the horrors of vivisection.

## SELECTED PAPERS.

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### THE PRESENT STATE OF THERAPEUTICS.

An Address Delivered at the Opening of the Fifty-Sixth Course of  
Lectures in Jefferson Medical School.

By ROBERTS BARTHOLOW, M. D., LL. D., Professor of Materia  
Medica and General Therapeutics.

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I heard, but a few years ago, a very able teacher, himself a Professor of Practice, declare that if the four great chairs of Anatomy, Surgery, Practice of Medicine, and Obstetrics were well filled in a medical school, it was of little consequence who occupied the others ; and as for *Materia Medica* and Therapeutics, any old woman could teach that. His was the traditional old woman who knew how to prepare catnip, tansy, and similar teas, and on special occasions could administer castor oil—an amount of therapeutical knowledge sufficient now for the leaders of French medical practice, if we may credit some recent reports from Paris.

Scientific physicians have usually held therapeutics in small esteem, doubtless because it had small deservings. In Bichât's time it was a feeling of contempt, which found expression in his famous declaration : “ *Materia Medica* is a shapeless mass of inexact ideas, of observations often puerile, of imaginary remedies, strangely conceived and fantastically arranged.” No one possessed of any knowledge of the subject, could now, on examination of the therapeutics of that day, deny the justice of Bichât's denunciation. It was an incongruous mixture of empirical notions, based on the crude theories of various medical philosophies—partly humoralist, partly solidist, partly of the Italian contra-stimulant school. It embraced the mechanical and chemical theories of the great Boerhaave, the vitalistic mysticism and the expectant practice of Stahl, and the solidist theories of Hoffmann. The whole mass was hardly in advance of that condition of therapeutics against which were leveled the shafts of Montaigne, the jests of Molière, and the morbid fancies of Rousseau. In fact, it was not until the birth of modern physiology that scientific therapeutics became possible, and that epoch was at a period within the memory of men now living. It may seem almost incredible, but it is true, that any considerable



body of scientific facts in therapeutics has been the product of the last twenty years—for scientific therapeutics must always follow the course of discovery in physiology. Even now, there must necessarily be two methods pursued in advancing the knowledge of therapeutics:—the empirical or rational, and the physiological or scientific. The empirical method is based on the principle, as ancient as our art, that a remedy which has cured a case of disease must also cure analogous cases. The scientific method is the application of physiological research to ascertain the actions of medicines, and on this sure basis is predicated the use of remedies in the treatment of disease.

The inherent difficulties of the subject, it must be admitted, are in large part responsible for its tardy development. In part its slow progress is due to an unreasoning conservatism, which admits of but one road to the acquisition of truth. Even now there are many so-called practical men who are disposed to sneer at physiological therapeutics, and to make themselves unhappy over achievements which experience can utilize, but has had no agency in accomplishing. They should reconcile themselves to the inevitable by the philosophy of the old Spanish proverb: *Let the miracle be done, though Mahomet do it.* They should be satisfied with the progress of truth, though they may not approve of the means by which that progress has been achieved.

But the most vehement reactionists are yielding to the force of therapeutical discovery accomplished by physiological methods.

Thus, one of the most eminent therapeutical authorities of our day has declared in a preface written so recently as October, 1874: “In the first edition of this work the author contended against the mischievous error of seeking to deduce the therapeutical uses of medicines from their physiological action. Continued study, observation, and reflection have tended to strengthen his convictions upon this subject, and to confirm him in the faith that clinical experience is the only true and safe test of the virtues of medicines.” The same author, in another work on the same subject, after another five years of study, observation, and reflection, says, in a preface dated 1879: “Whenever it seemed possible, an attempt to apply the results of physiological experiment to therapeutical uses has been made; for although the two fields of inquiry

may not be so organically connected as to render the former a guide to the latter, it is, nevertheless, true that a scientific explanation of the curative powers of medicines must be sought in the results of their experimental operation upon the animal functions."

No revolution of opinion could be more complete ; no renunciation of heresy more absolute. In 1874 empiricism is the true guide, in 1879 physiological experiment. This, though somewhat sudden, is significant of a change which is taking place in the last strongholds of empiricism. Such a quotation must satisfy the doubts of all—and they are legion—who respect authority and are governed by its utterances.

I hope I shall not be misunderstood. Far be it from me to abate one iota of the just fame of the author whose works I have quoted, or to compute inconsistency in his opinions, or to cast doubts on the accuracy of his judgments. I quote his words to demonstrate the revolution which has taken place by the application of the modern, scientific methods, with results so convincing, that the deepest convictions from wide learning and extending experience are made to yield. Honor and praise rather to the honesty of him who can render his own cherished convictions rather than to do violence to truth.

Revolutions do not go backward, and they are apt to be radical in medicine. Furthermore, it is surprising to what extent fashion rules current medical opinion and modes of practice. Do the leaders in medical thought take a certain direction, their followers pursue pell-mell. This is observable now in the revolution which has taken place with respect to empiricism in therapeutics, and in certain quarters there exists a disposition to ignore all that has been accomplished by it, and to rely exclusively on the physiological method. This extreme tendency ought to be resisted in so far as there is danger of putting aside some of our most valuable acquisitions. It is far wiser to possess us of every aid which either method can offer—to accept the scientific facts which an exact physiological research can contribute, and to retain and extend that knowledge, the truth of which has been confirmed by the experience of generations of accurate observers. In fact, when we come to investigate the subject we find that the physiological method is not free from sources of fallacy, from contradictory observations, from conclusions that

subsequent investigations show to be erroneous. I freely admit that it is less hampered and overgrown by errors and contradictions than is the empirical method, but there are uncertainties and confusion which ought, if possible, to be eliminated. The first step necessary is to have a clear conception of the sources of error, and I think we may spend a part of this hour very profitably in an attempt to measure them. The important question is : What are the difficulties in the way of right conclusions respecting the actions and uses of our remedies, especially their value in the treatment of disease ?

We may certainly place foremost the imperfections of man—the limitation of our faculties. Then comes the absence of the necessary training, or its insufficiency, and the utter lack of power of logical analysis in many of those who occupy the position of authorities. These mental defects and faults of training can never be overcome. “In the conduct of life,” says Mr. Mill, “wrong inferences and incorrect interpretations of experience unless after much culture of the thinking faculty, are absolutely inevitable : and with most people, after the highest degree of culture they ever attain, such erroneous inferences are as frequent, if not more frequent, than are correct inferences correct interpretations of experience.” Such being the case, it is not surprising that in a matter so beset with fallacies as the estimation of the curative power of a remedy, that there must be few qualified by natural powers, and by training for the task. The best equipped and most carefully trained intellect may not possess the power of observation ; it may be unerring in the conclusions formed from the facts submitted, but the faculty of discernment, of seeing things as they exist may be deficient or inaccurate. That which Mr. Mill calls “mal observation,” consists in “something that is not simply unseen, but seen wrong.” With the best intentions, the purest conscientiousness, men making the best observations—trained observers—differ surprisingly in their accounts of events occurring on a particular occasion. A capital illustration of this fact has been afforded by the discrepant accounts from the observers of the corona and the solar protuberances. Observed with the same instruments under the same conditions, the various operators have differed widely, with the usual result of heated controversy. An ingenious theorizer has

shown that the difference lay in the eyes of the observers; some were normal—some were astigmatic, myopic, etc. As in Turner's pictures, the artist's oddities appeared when he had lost somewhat his appreciation of the harmony of colors. Not long since Klein saw, in investigating the changes in typhoid, a minute organism which seemed to have an important relation to the genesis of this disease, and there was much enthusiasm extended over the discovery, but in a few months a terrible iconoclast disposed of the discovery at one blow, by showing that the supposed organism was nothing more than a bit of albumen, altered by the reagents used in making the preparation. How much easier to form accurate conceptions, and give correct descriptions of things submitted to the evidences of our senses, than from the phenomena arising from occult processes in the human body. Unfortunately many of those occupying the position of authorities, discern that which their preconceived opinions led them to search for; other observers look at facts with vision tinted by what Mr. Spencer calls the "professional bias;" in a variety of ways, the thing is not simply unseen, but seen wrong. The salutary lesson which we learn from this is: we cannot be sure that the things which we suppose we see are actually before us, and the other and higher lessons of patient-waiting and study of our supposed facts, and comparison of them with the facts of other observers.

If we observe correctly as to the range of utility of a medicine, we may fall into error in its use by ignorance of the natural behavior of the disease in which it is exhibited. Before any exact knowledge was possessed of the natural history of diseases, it was simply impossible to be accurate in respect to the influence of medicines over them. Before it was known that a crisis occurs in pneumonia somewhere from the fifth to the eleventh day, endless were the controversies as to the influence of remedies in bringing this crisis about. How valueless became all those discussions, carried on with such earnestness and heat, when the natural history of pneumonia was made out, and it was discovered that medicines had never produced the crisis, which is an entirely natural process. Most important additions have been made to the natural history of diseases within a few years past, and we have now a sure point of departure for the investigations of the future. I affirm this, notwithstanding

the pessimistic declaration of Dr. Andrew Clark, made before the medical section of the British Medical Association at their last meeting at Cork. He declares "that of the natural history of most chronic diseases—of their course from first to last; of the modes in which the organism, uninfluenced by drugs, and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influences upon other parts, and in their issues either in recovery or in death—we know almost nothing, and certainly not enough for the commonest purposes of therapeutic art." The wholesale iconoclasm of this address is everywhere remarkable, but in nothing has his zeal so out-run his discretion, as in these statements. I need mention but two classes of chronic diseases to demonstrate the error of his statements—the chronic cardiac and renal affections—in regard to which we know their course from first to last, and how the organism uninfluenced by drugs and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influence upon other parts, and in their issue either in recovery or in death.

It may seem a comparatively easy task to determine how far the mind influences the bodily function in modifying the phenomena of disease, but it is extremely difficult to measure the operation of a force whose nature and source are unknown, and whose powers are exercised capriciously, and without the reign of law. A curious and most interesting book, compiled by Dr. Tuke, has lately been published, in which are brought together more thoroughly than ever before the facts scattered through medical literature, illustrating the influence of mental states on bodily functions. No one can peruse this book without being strongly impressed with the uncertainty which must attend our estimate of the influence of remedies in all of those conditions of disease over which a peculiar mental force may exert a far greater curative power. Everybody has been more or less familiar with the well-attested facts which have existed on this point, but when they are brought together, analyzed, and their lesson comprehended, we are simply amazed to find that many morbid states, which medicines had failed even to modify, are removed or cured, by a force emanating from the mind. If this mysterious force moves how impossible to form a correct judgment of the share which a medicine or a plan of treatment had in the result.

When Sir Humphry Davy, then a young man unknown to fame, was employed by Dr. Beddoes to make observations with nitrous oxide, among the patients who presented themselves for treatment was a paralytic. Before commencing the inhalation of gas, Davy inserted a thermometer under the patient's tongue to ascertain the influence of the gas on the temperature of the body. The patient was greatly impressed with the mysterious little instrument, and declared, with much enthusiasm, that he felt the influence pervading his entire frame, and was already much relieved. Davy, observing the remarkable influence of hope and expectancy, did nothing more than gravely insert the thermometer day by day with surprising results, for in a short time a complete cure was effected. If Davy had administered the nitrous oxide, the case would have appeared in medical annals as a cure of paralysis by the gas.

When a *religieuse*, in Cincinnati, with prayer and fasting, and after a solemn service in which all of her sisterhood participated, threw herself at the foot of the altar and would not rise until healed—behold! an ulcer of the leg, resisting all other means of treatment—was cured by some drops of water, coming from the far-off, mysterious and sacred spring of Our Lady of Lourdes. In the one case it was a mere impression on the mind without the element of religious faith—a mere dependence on the efficacy of dumb glass; in the other a profound religious sentiment, than which nothing more powerful can sway the human heart—and yet the result is the same.

When we come to analyze the examples of diseases cured by powerful impressions, emotions, faith, hope, expectant attention—whatever the nature of the mysterious force—we find that the cases can be referred to one of two classes: to functional morbid states of the nervous system, or to alterations of structures—organic changes they are called—brought about through the agency of the trophic nervous system. Everybody is familiar with the plentiful examples of the first group, and the second needs no explanation to Philadelphia physicians—for in this city work has been done that has materially advanced the knowledge of the subject. In these two large and important groups of diseases, so much does the cure depend on merely psychical impressions, that it is difficult—often quite impossible—to determine how far the remedies employed,

contributed to the result. The practitioners of that medical jugglery who cure diseases by prayer and the imposition of hands, or by the gifts of the natural healer, understand full well the form of malady suitable for their powers. There is now in the State of Massachusetts, a preacher-doctor who cures by prayer and the imposition of hands—the apostolic method—and therefore denies to his grateful patients the privilege of recompensing him except by voluntary gifts. The pecuniary outcome of his benevolence is something remarkable, for he has now built up around him on his domain of several hundred acres, a number of stately dwellings for the reception and care of the thousands going to him from all parts of the United States. A patient of mine—a genuine Christian and a woman of the highest excellence, though somewhat credulous and a little superstitious—having heard of the wonderful cures wrought by this Massachusetts apostle, resorted to him. I had from her own lips the story of her experience. She told the great man that she was a firm believer in the efficacy of prayer, having met with many examples, and that she had come all the way from Ohio to be cured of an organic affection of the heart. When the doctor-preacher heard the nature of the malady he made a reply, in which, astonishing as it may seem, she saw no incongruity. He said: “My experience is, that the Lord rarely, if ever, interferes to cure organic disease of the heart.” Nevertheless, he expressed a willingness to try, as she had come so far, and, with hands on hers, he did pray fervently, in which she joined as fervently, for half an hour at a time on three days; but my patient experienced no relief, and came home the worse for the moral struggle which she had undergone. My client, as did all who came, it is probable, left a considerable fee in the form of a gift, and was not cured of her delusion, for she heard of numerous miracles that had been wrought there, and she witnessed on all sides the evidences of worldly prosperity; and she may have inspected, for aught I know, the arsenal of crutches, canes, and ear trumpets which these artists exhibit in proof and confirmation of their powers.

When anæsthesia by the inhalation of ether was demonstrating in the Massachusetts General Hospital, Dr. Eliottson, of London, was engaged in a far more wonderful work, teaching the great lesson, that in a mesmeric sleep surgical operations can be performed

without consciousness of pain. So zealously and completely, although in the face of much obloquy, had Eliottson succeeded in convincing sceptical and conservative London of the genuineness of his work, that the discovery of the production of anæsthesia by the inhalation of ether was announced in the *Medical Gazette* under the heading "Animal Magnetism Superseded." Up to this time the capital operations in surgery were almost daily performed in London whilst the patients were unconscious in the so-called mesmeric sleep. Although Eliottson misinterpreted the phenomena which he observed, and became involved hopelessly in the absurdities and mysticism of Mesmer, he was nevertheless engaged in the demonstration of important truths. If time would allow, I might enter more fully into that remarkable state in which there is a suspension of the methods of consciousness, and show, indeed, that the recent observations of Czermak and others on animals, is an experimental induction of the same state. It seems, indeed, that the condition of the brain in which a peculiar curative influence is exerted over morbid processes, is the opposite of that state in which the activity of the perceptive and volitional centres is in absolute suspension.

Closely allied to this subject are the remarkable phenomena of Burqism, or metallothrapy, which at first excited the ridicule of the scientific, but which seem now likely to contribute to our knowledge of this outlying department of mental and nervous processes. The results obtained by Burq, and especially by Charcot, are such as to merit the close attention of therapeutical investigators, and must, if confirmed, enter into the question of the curative power possessed by certain remedies.

We constantly hear physicians complaining that the published results of others, in respect to the utility of a particular plan of treatment, cannot be realized in their own experiences; that, although Davy cured paralysis by the inhalation of nitrous oxide, they cannot succeed, although they have carefully observed all the conditions of the experiment. They entirely overlook the fundamental fact that one physician summons to his aid the mysterious mental force in hope, faith, expectant attention; and another represses it, not consciously to himself, by a lack of personal enthusiasm, and still more by a lack of confidence in his own powers



and in the power of his remedies—fatal defects in the character of the physician which will not escape the keen scrutiny of the anxious patient. I will not use the vulgar term “personal magnetism.” for it has no meaning, and the power is not a magnetic quality or power,—not a mysterious gift possessed by the chosen few. That which inspires a supreme, unquestioning all-pervading belief in the efficacy of the means proposed is a reflex of the confidence of the physician—not a boastful, self-asserting egotism, not the blind faith of ignorant credulity, but the well-founded convictions of the enlightened therapist, confident in his resources from long experiences of their capabilities. “The Lord is on the side of the heaviest battalions,” was a favorite saying of the great Napoleon. I hope I shall not be understood to speak in an irreverent spirit. My purpose is to illustrate the lesson, that “God operates, not by partial, but by general laws;” that He gives us the faculties to acquire and to apply knowledge in the treatment of disease; that He does not suspend the laws of nature for our benefit; and that those cures which seem miracles are entirely human and easily explicable.

We derive from the whole subject the important lesson that we have in a peculiar mental state or condition of the great nerve-centres an extraordinary curative power in a large group of diseases, and that in this fact lies one of the greatest sources of fallacy in estimating the value of remedies. Furthermore, it must be obvious that the physiological as well as the empirical method—that both methods are embarrassed by wrong inferences and incorrect interpretations of experience.

The progress of applied therapeutics is equally hindered by the sources of error which I have pointed out. The end to which all our studies are directed as practical physicians is the application of remedial agents to the cure of diseases. An unprejudiced thinker, to whom the subject was mentioned would assert with confidence that gentlemen engaged in a pursuit requiring the use of certain agents to accomplish the desired results, would be most solicitous to inform themselves fully in respect to those agents. He would regard it as incredible that a considerable part of our profession are either indifferent or satisfied with vague notions, and that a still larger part fall into routine methods with a few agents which have to do

duty for all possible conditions. This wide-spread inappreciation, indifference, or ignorance of the actions and uses of drugs is due partly to fashion, partly to the unpromising nature of the subject. Within a few years past a therapeutic nihilism has been the position occupied by many of the most influential leaders in modern medical thought. This movement is a result, in part, of the over-shadowing importance of physiological and pathological studies. The founding of great laboratories and the brilliancy of discovery in these departments have attracted universal attention to those studies which have become the fashion. We see on every side the efforts put forth to give this direction to medical study and teaching. The desire of the time seems to be to make students, histologists, pathologists, microscopists, rather than sound practitioners, full of the humble but necessary knowledge of the practical departments of our art and science. I hold this to be a perversion of the duty of a medical school. Its first and highest duty is to instruct students, not to pursue minute researches, but to become thoroughly accomplished physicians and surgeons. No fact is more evident than that the highest order of physicians and surgeons are not men remarkable for their knowledge of microscopy, of experimental physiology, and the other branches of theoretical medical science, and, conversely, that the microscopists and pure physiologists are not remarkable as physicians, and, indeed, cannot be. The attempt to pervert the proper purpose of medical schools, and to give a merely science aspect to medical teaching is a fashion of the time, which, if it gain more adherents, is likely to do serious mischief to the cause of medical education. For young men, allured by the glitter of scientific work, will neglect the important and really more difficult attainments of true professional studies.

It is a mere pseudo-science which is misleading so many that it has become commonplace to know something about drugs and to prescribe them; the new school of pathologists and physiologists look upon the whole business of medicine given as unscientific, and therefore unworthy the attention of the higher order of medical thinkers. It is a very fascinating doctrine, that to be ignorant of drugs is to be regarded as superior to the commonplace—as being in the higher walks of medical life—and hence many make haste to adopt it, relying for the hereafter on mint-water in the treatment

of rheumatism, and similar nihilistic absurdities. The great question of the time is, does it pay? Applying this utilitarian method to the subject, I answer, it does not pay to be ignorant of therapeutics, and I prove my position by some illustrative examples selected from those recently deceased, so as not to be accused of making invidious comparison. The most successful physicians Paris, Vienna, Berlin, London, Edinburgh have had for a generation, were Trousseau, Oppolzer, Traube, Todd, Begbie—all of whom were most careful students of therapeutics, have contributed to our knowledge of the subject, and were diligent prescribers of remedies. These great men were not only successful teachers and clinicians, but had great local renown as practitioners, and each had a large *clientèle*. I beg you will not, therefore, be misled by the depreciation of therapeutics by presumed medical scientists, who are not sufficiently scientific to feel their position assured, but must manifest their superiority by speaking contemptuously of the so-called practical branches. *Sum* is sometimes taken for *habeo*, is an eccentric rule of Latin grammar which is very applicable to the affairs of modern life, and may have been, and doubtless was, strongly felt by the old Romans. To have is to be. Applying this rule to the utilitarian side of the question you may be well assured that *to have* a competent knowledge of therapeutics is *to be* a successful practitioner.

Many who have started out on a medical career with a competent knowledge of therapeutics have been disheartened by a failure to obtain the expected results. Failures of this kind arise from two causes: first, from an incorrect appreciation of what nature and art respectively accomplish; and second, from an inability to make a correct therapeutical diagnosis. The rage in our time is to make an accurate diagnosis of disease, and it is an enthusiasm to be encouraged, but there ought to be a corresponding desire to make an accurate therapeutical diagnosis—that is, to ascertain the remedy adapted to the form and character of the disease and the condition of the patient. Into this problem many complex questions enter, and he only can solve it correctly who has an intimate acquaintance with the phenomena of disease, and with the whole range of rational and scientific therapeutics.

What art, what nature can accomplish, is a wide subject which I

must merely mention. It is a singular fact that but few young physicians, comparatively, recognize the limits of remedial power. The result is that they may begin with a blind, unquestioning faith, but they end with an unreasoning scepticism.

Having now dwelt on the method and spirit in which therapeutics should be studied, as much as my time will allow, I must next say something of the manner in which it should be taught.

Confronted at the outset of his career with the subjects of *materia medica*, a student may well stand appalled. A subject which embraces the mineralogy, the chemistry, the botany, the pharmacology of several hundred articles belonging to the three great kingdoms of nature, would seem to require the undivided attention of a life given to the task. The student of medicine cannot become sufficiently well informed in these sciences to utilize them in the study of the *materia medica*, and at the same time devote sufficient attention to his strictly medical studies. The result is, he abandons an undertaking which seems to him hopeless, cuts the subject of *materia medica*, and contents himself with the fewest possible facts in therapeutics. He enters into practice with crude notions, and is given to a boundless credulity respecting the curative powers of drugs, or he cultivates sceptical diletanteism, or becomes a sceptic, affecting a patronizing forbearance for the weakness of those who have faith in remedies. The condition to which practitioners are now reduced in Paris is gravely stated in a letter which appears in a recent issue of the *Lancet*—so gravely that it can hardly be regarded as satirical: “No wonder therapeutic scepticism is now the rule with prescribers. Thanks to the enterprise of wholesale druggists, a host of *elegant* preparations are always at hand, which relieve the scientific *clinicien* from the ridiculous absurdity of writing a useless formula. Now that diseases are allowed to run their normal course under the watchful eye of the medical naturalist, the exhibition of an inert, but *elegant* granule, must be considered a vast improvement upon the active interference of our physicing forefathers.”

No wonder that at a recent meeting (last month) of the Paris Academy of Medicine, there were loud demands for reform. No wonder that Dr. Andrew Clark, in that recent iconoclastic address from which I have just quoted, cries out that therapeutics, “the

highest department of our art, and one of its chief ends, is in a backward and unsatisfactory condition." He attributes this unhappy state of things to several causes; but the first is that *materia medica*, not therapeutics, is taught in the schools, and that there is "no physician of experience and authority who teaches the subject of therapeutics."

Where must the reformation begin? Obviously the reformation is demanded in the direction which I have indicated, and which Dr. Clark so vehemently emphasizes.

We must begin by stripping the *materia medica* of its useless knowledge. We must relegate to the botanist, to the chemist, to the pharmacist, the subject matters belonging to them, and retain those things having connection with the study and work of the physician. I can best illustrate this by an example selected from the vegetable kingdom: let it be *nux vomica*. We have first the names—botanical and chemical. Then follows the source and botanical description, which is Sanscrit to the average student, and knowledge without any use to the practitioner as such. Next comes the pharmaceutical preparations, and a description of the mode of preparing the tincture and the extracts, and an elaborate account of the separation of the alkaloids—a complexus of chemical and pharmaceutical knowledge of great utility, indispensable, indeed, to the pharmacist, but useless to the physician, who is not engaged in the business of a manufacturing chemist, and who cannot acquire this knowledge unless at the expense of his proper professional education. The best students who make the attempt to master the details of *materia medica*, acquire but a vague notion of it, and drop the study as soon as possible, except the few who expect to combine the business of pharmacy with the practice of medicine—a union which always results unhappily, and is not to be approved.

Dr. Clark complains in his energetic way that our works in this department consist of *materia medica* teaching largely, whereas they ought to be devoted to therapeutics only. This is an extreme view to which I must decidedly express my dissent. There is certain knowledge of pharmacy and chemistry which is necessary to accurate prescribing, and must be taught, if we would use our therapeutical knowledge intelligently. We must know the name of

the drug, the forms and preparations in which they are compounded, the active constituents, the doses, the antidotes chemical and physiological, but especially must we have full and accurate information in regard of the effects of the remedies and their uses in the treatment of diseases. All of this knowledge is immediately applicable to the requirements of the physician, and no part of it can be omitted without injury. I hold that the actions and uses of remedies is the point on which the greatest stress should be laid, and no information empirical or physiological, should be neglected. Let the student have the minutest information from all possible sources of the physiological powers and capabilities of a drug, its behavior as influenced by idiosyncrasy and dose, its application in the treatment of disease, the fallacies which affect a proper estimate of its powers, the special conditions in which it is useful, why it should be preferred to another remedy of the same class, and in fact any information in regard to it which may facilitate the physician's use of his armamentarium. The artisan is taught the name of the tool, the range of its uses, the mode of handling it under special circumstances; but he is not expected to acquire the mineralogy of iron and the chemistry of steel—subjects concerned with its original construction.

The information which a teacher must convey to a class is derived from two sources: from a study of the authorities who have contributed to the subject; from his personal experiences and reflections. The literature from which he gleans is a wide field and contains a multitude of workers, who differ in capacity, in acquirements, in honesty. The instructor may pursue two methods in imparting his information: he may present in order, chronologically or by subjects, a synopsis of the contribution of each individual worker; he may subject the whole to a careful analysis, weigh the merits and truthfulness of individuals, and present the results in the plainest language. The former plan confuses the student with a multitude of names and opinions that vary and are often contradictory; the latter gives him some salient points on which he may lay hold. I maintain that the latter plan is the true one—that it is the duty of the instructor to analyze the complexus of facts and opinions—to guide the intelligence of the student through a maze to right conclusions. Those who wish to engage in

investigations on their account are either advanced students or graduates, who possess the knowledge necessary to find their way through the labyrinth.

I hold, further, that the instruction should be, as far as possible, objective or demonstrative. The lecturer may content himself with stating that drugs will produce certain results—that strychnia will cause tetanic spasms, and that conia will paralyze—and he may illustrate the action of strychnia by an exposition of some famous medico-legal case, as the poisoning of Cook by Palmer, and the action of conia by recounting from the *Phædro* of Plato the death of Socrates; or he may at the moment demonstrate the effects of the drug by an experiment which makes the fact memorable in the student's mental experiences. The chemists who merely tells his students that water is composed of oxygen and hydrogen, and does not demonstrate it by experiment, will hardly have done his duty. The experiment vivifies the bald fact, and the impression made is permanent. But how demonstrate your therapeutical facts? This brings me face to face with the great vivisection question. Though an advocate for rightly conducted vivisections, I protest against cruelty to animals, who are God's creatures. I protest against those barbaric sports in which more animals suffer yearly—hunted to death—than have in all time been under the knife of the vivisector. More than all, I protest against that inhumanity to man—the outcome of an unreflecting sentimentality—which presents those scientific investigations having for their end incalculable benefits to man. Some of our most important remedies and physiological knowledge of the highest importance have been, and only could have been, obtained by experiments on animals. If animals are sacrificed for the support of men's bodies, why should they not contribute to the improvement of men's minds? Your sentimental philosopher does not reflect on the humanity of the butcher, except the toughness of his matutinal steak. Not to occupy further time with well-known arguments in favor of vivisection, I hold that the actions of drugs should be illustrated as far as practicable by experiments on animals, but the experiments must be decorous, not revolting, not cruel, and made strictly to advance or to impart knowledge for the benefit of our fellow-man. In these experiments animals have small occasion to suffer, for the medicament or the

anæsthetic so far obtund the sensibility of the centres of conscious impressions that pain is not felt.

Why torture dumb brutes by experiments, which after all cannot be utilized in the treatment of men's diseases ; for has it not been shown that the actions on men and animals differ—that rabbits eat belladonna with impunity, and pigeons cannot be affected by opium ? I might explain to you how idiosyncrasies exist in men and animals alike, and are usually more apparent than real but let me answer your objections by a quotation from the most competent authority of modern times—Claude Bernard. He declares in that remarkable work—"Introduction to Experimental Medicine" (p. 218)—that "experiments on animals with deleterious and noxious substances are very useful, and perfectly conclusive for the hygiene and toxicology of man. The researches on medicaments or poisons are equally applicable to man from the therapeutical point of view, for the effects of these substances are the same in animals as in man, except the difference in degree." This opinion, based on the largest experience, and after a career of brilliant discovery might be illustrated and enforced, if I had the time, by the examples of benefits to the race obtained in this way.

The crusade against vivisection in England, which has attained extraordinary volume and force within in a few years past, is an outgrowth of dog-worship, which has now become a form of religion in the upper classes of society. With hair perfumed, powdered, and curled, his canine worship sits at the table with his mistress, rides in the park in the afternoon, sleeps on the downy pillows at night ; he has his maid to anticipate his wants, besides the undivided attention of his mistress, and when ill he is waited upon by a celebrated physician. He makes no return to society for the protection and benefits he receives ; he pays no taxes ; he merely barks and growls in return for the love of his mistress, and is altogether an ungrateful dog ; but he has driven physiological research out of England, and the gentlemen who were engaged in an important series of investigations on the biliary secretion were compelled by him to go over to France. An epidemic of hydrophobia and the loss of several titled ladies will be necessary to prevent the apotheosis of the dog, and to put vivisection in its proper position—for a cure for hydrophobia can only be arrived at by experiments on this at present distinguished member of society.—*New York Medical Record.*



## ONE HUNDRED AND FIFTY CASES OF TYPHOID FEVER.\*

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City Hospital.

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The object of this paper is to offer some practical observations on one hundred and fifty cases of typhoid fever treated in the beds on the south side of the medical wards of the City Hospital during the last three months in each of seven years ending with the 31st December, 1877. It is hoped that they may have some interest for others beside the observer, although there is little new to be noted in traversing ground so well trodden; and the number of cases is too small for generalization of much value. The experience will be given, uninflated by fancies or quotations, for what it is worth.

Some of these cases entered in the last five or ten days of my predecessor's term, but have been considered here if the patient were mainly treated by me. The few subjects of this disease who enter in December have been reckoned if the height of the fever were passed before my relief came on duty.

The *causes* of typhoid fever cannot be studied in these examples, which come from every part of the city and from all sorts and conditions of men. They are often poor people whose friends and doctor are worn out with the incessant care needed by the sufferer, and which cannot be given. Many have frightened all who have to do with them by the fury of their delirium, and are sent to the hospital to die; while some come from crowded hovels, which contribute more than one case. Others are clerks, mechanics, or servants of houses in the best situations. One maid came from Nahant, from a family, who, of course, paid their taxes in Boston. Of late years tramps furnish an increasing contingent, as would be expected from their growing numbers. The source of the disease influences the result but little.

It is denied by the best authorities that fatigue, emotion, or destitution have to do with the ætiology of the disease, and the custom of the day is to class it among "filth diseases." From the vague stories gathered from hospital patients and their friends, it is impossible for the physician to form an idea of the origin in most of

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\*Read before the Boston Society for Medical Observation, May, 1878.

the cases admitted. In other than hospital patients it has not been made plain to me that all cases are to be referred to the poisoning of air and water with excrementitious matters. In London, increase of typhoid was contemporaneous with the completion of the main drainage scheme in 1865-1870. (Murchison.) As has been remarked in this society, typhoid fever was seldom seen in Dorchester (where the writer lives) except in the southern border, along the Neponset River, and our cases of this disease were almost all imported. There was something of an epidemic when Ceechituate water was introduced without any system of drainage, and the old roads were dug up in all directions. Since that time, six or seven years ago, the tendency to fever has lessened, and last year there were scarcely any cases.

*Contagion* is not a cause of the fever. One fatal case was that of a woman who had nursed a sister through the sickness. On the other hand, in these seven years there are found among the one hundred and fifty but four hospital servants with the disease, and only one of these (Ferris, aged fifty) was in attendance on fever patients. In five years at least no house physician or surgeon has taken fever. This disease resembles most contagious disorders in usually exempting from subsequent attacks, and when a feverish patient says he has had just such an illness before he is closely examined for evidence of tuberculous or other malady. Large families are known in which fever seems never to occur, but it is a sickness which almost every one in New England has in childhood or youth, and its causes, except in certain epidemics, are yet to be determined.

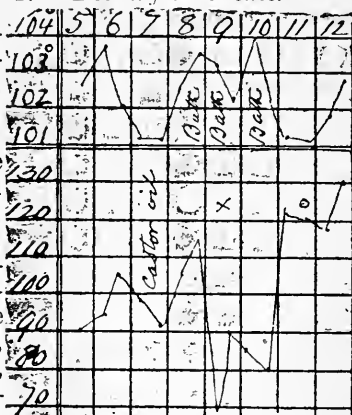
We consider that long, hot, dry summers keep the doctors busy. We know that long, cold winters breed sickness, as mild winters do not, as most of us have found to our cost in making up last quarters' accounts. The weather records do not conform to our ideas as they should in regard to the relation between hot, dry summers and fever. The greatest number of typhoid patients admitted to the hospital was one hundred and sixty-three in 1872, when (according to tables furnished me by my friend, Dr. E. T. Caswell, of Providence) the summer was hot and wet; the smallest number, eighty-seven in 1876, which year will be remembered as hot in June and July, and cool in August and September, while the rain-fall was about the

usual average. One hundred and fifty-eight were admitted in 1873, which was cool, with average rain-fall. It is not impertinent to note that patients and their friends often ascribe the illness to a definite cause: exposure to foul gases, as in opening a cess-pool, exceeding anxiety, but especially to heat, cold, or wet, sleeping out-of-doors, or watching at night.

CASE I. D. F., ward-master, aged fifty, was devoted to the fever patients. Five days ago, tired, pains, chills, fever, headache, slight abdominal pains, slight cough, mucous expectoration. Now, bad headache, pain in joints, tympany, gurgling. Urine normal. Sixth day better. Seventh, "decidedly" better. One doubtful rose spot. Constipated four days. Oleum ricini, one drachm, every four hours until operation. Milk. Sponge bath. Dover's powder. Eighth, three dejections. Soreness of abdomen. Sherry, three ounces. Ninth, tremulous. Tenth, Cheyne-Stokes respiration. Eleventh, retention. Twelfth, died. No autopsy.

CHART I.

F. The day of disease.



\*Fall of pulse while tem. ascends.

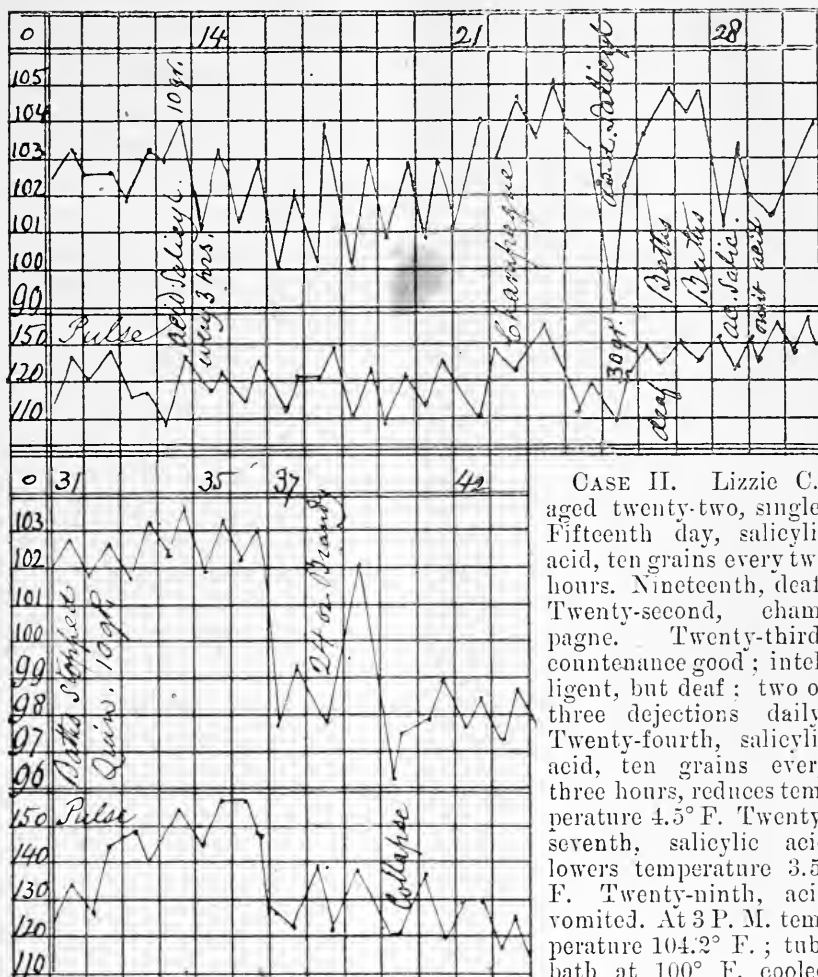
\*Fall of tem. while pulse ascends.

The incubation of the disease, we, of course, have no chance to watch. The writer remembers his own wretchedness for nearly a month with the prodromata of the fever. In the case of the ward-master, Ferris, he affirmed that he was well until four days before he was put to bed. Our patients have to keep about their work usually a week or more before going to bed. All of us have seen cases so mild that the patient could walk about, and even do business. I saw a young man two years ago who could be kept at home only a day or two, and went to his store daily with a high temperature, headache, and diarrhoea. It is thus difficult to appreciate the length of the fever. In these cases we have tried to reckon from the initial chill, when one was reported.

*Diagnosis* is not touched upon in this paper. Our patients are mostly admitted after five, seven, or more days' illness, when its character is generally settled. Acute tuberculosis and meningitis simulate typhoid oftenest. The *age* of patients does not differ from the usual observations, adults and old people being less liable to this

fever, because, for one reason, so many have had it once, even, perhaps, so mildly that it was not recognized. *Diarrhœa* is recorded in but thirty-five per cent. of all the cases, and in nearly all the fatal ones. This rate is lower than is generally quoted; the writer's experience would make it about fifty per cent. in this neighborhood. *Vomiting* happened in twenty per cent. of all the cases, and has no special significance as an early sign; but when it comes on in the course of the fever, it must be questioned if it means over-feeding, peritonitis, or nephritis. *Cough* was noted in only eighteen per cent., the physical signs, if any, being those of bronchitis; pneumonia, pleurisy, and cardiac disease have representation in small proportion. *Delirium* was present in the fatal cases, and in nineteen per cent. of the recoveries. *Rose spots* are recorded in thirty-two per cent. (They have been observed in diphtheria, in non-febrile cases, and Jaccoud reports them in a case of acute tuberculosis.) Children and elderly people, as a rule, do not have them. Blue maculæ (*tâches bleuâtres*) in three cases, one fatal. *Sweating* in ten per cent. *Rachitic pains* in fifty per cent. *Epistaxis* in twenty-one per cent. The highest pulse recorded in a case of recovery is 160 on the fourteenth day, the fever turning eight days after. The highest temperature was in a man (aged forty-four), of 107° F. on the eleventh day, when his pulse was 109, the fever abating on the thirty-eighth day. The usual termination of the febrile action is by gradual fall, as is well known, but in a large majority of cases there is some day when the temperature drops two or three degrees to the normal standard, and you will see in some of the charts a fall which may be termed a crisis or defervescence, in one severe case of eight degrees.

CHART II.



CASE II. Lizzie C., aged twenty-two, single. Fifteenth day, salicylic acid, ten grains every two hours. Nineteenth, deaf. Twenty-second, champagne. Twenty-third, countenance good; intelligent, but deaf; two or three dejections daily. Twenty-fourth, salicylic acid, ten grains every three hours, reduces temperature  $4.5^{\circ}$  F. Twenty-seventh, salicylic acid lowers temperature  $3.5^{\circ}$  F. Twenty-ninth, acid vomited. At 3 P. M. temperature  $104.2^{\circ}$  F.; tub-bath at  $100^{\circ}$  F. cooled down to  $80^{\circ}$  F. when patient became restless; temperature lowered to  $102.4^{\circ}$  F. At 10:15 another tub-bath cooled to  $74^{\circ}$  F. in ten minutes reduced temperature from  $103.6^{\circ}$  F. to  $102^{\circ}$  F. At 2:10 temperature  $104^{\circ}$  F., pulse 130; reduced by bath to  $102.2^{\circ}$  F. and 120. At 5:15 temperature  $104.4^{\circ}$  F., reduced by bath at 7:20 o'clock to  $100.9^{\circ}$  F. Thirty-first, stopped baths. Quinine, ten grains at one dose. November 4th. Taking brandy, sixteen ounces daily. Involuntary micturition. Thirty-eighth, subsultus. Last night collapsed; heaters to body; brandy subcutaneously. Has eighteen pints of milk and twenty-four ounces of

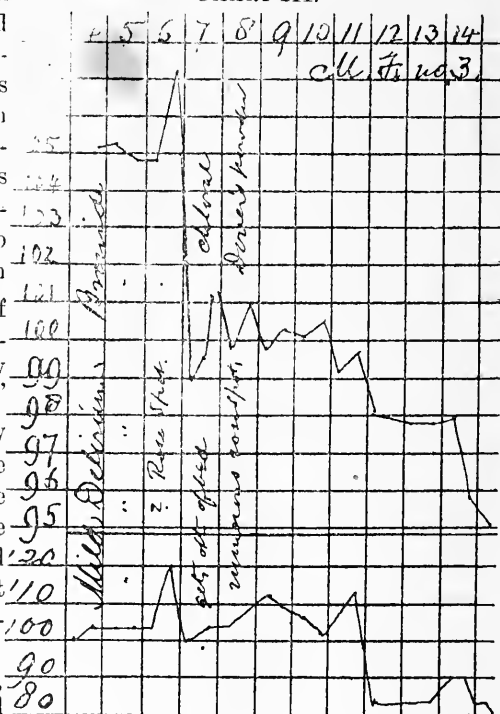
brandy daily. Urine specific gravity 1024; urea increased; no albumen. Discharged well on the one hundred and tenth day.

In the case of Lizzie C., this case was denoted by a fall of four and a half degrees, accompanied by collapse, when her life was saved by the indefatigable attention of Dr. Otis, then the house physician. The abatement of the fever happened in one case (with rose spots) on the seventh day.

The same fall is shown in Case III., M. F., aged seventeen, a private patient, where the fall was over eight degrees; in another, on the fifty-third day, while others had still longer duration. The range is so great that striking an average gives no idea of the truth, and the popular notion that "slow fever runs three weeks" is as nearly right as may be; but in telling the family of a patient the probable duration of the disease we have to guard against disappointment in those cases that exceed due bounds.

CASE III. May F., (private patient), aged seventeen. High temperature, low pulse. Fever ended on the twelfth day.

CHART III.



Quite a number of patients had tonsilitis. One fatal case resembled diphtheria. Dr. Green has examined the ear of deaf patients, and has found all stages of inflammation in different cases. The proportion of these complications and of those having retention has not been noted.

A point worth mentioning is the frequency with which highest pulse and temperature occur in the milder cases at the time of or

the day after admission ; often the highest temperature on the day of entrance, and highest pulse the next day. This is owing to the moving and excitement of the patient, and points a moral in the need of quiet for a fever case. The length of time patients stay in hospital is a matter of no value to us, except as tax payers, although given in some tables, for so many are retained days and weeks after recovery because they have no home to go to, or can be useful by light work in the wards.

The question of *mortality* now claims our attention. Of the 884 cases of typhoid fever admitted to this hospital in seven years, 154 died, or 17.42 per cent. Murchison's table give the average fatality in the London Fever Hospital for twenty-three years as 17.26 per cent. ; in fifteen other hospitals 17.45 per cent., that is, one in every  $5\frac{3}{4}$  patients died. There are also reported 195 cases of febricular and a few of simple continued fever for these years, and if any or most of these can be considered mild or aborted typhoid (if there be such a thing) the results would be modified. In 1876, when typhoid was infrequent, only ten per cent. died. In 1872, which shows the most cases, the mortality was twenty per cent., confirming the dogma that when typhoid rages widest it rages worst. In the years when diarrhœa is most often a symptom are the most deaths. Some years it happens, in allotting patients, one physician gets most of the fever cases with diarrhœa, while his colleague is assigned the constipated ones, who furnish few mortal issues. But these inequalities balance in a few years.

In our 150 cases there are 19 deaths, or one in  $7\frac{1}{2}$ , or 12.6 per cent. The discrepancy between this table and that of all the cases treated in the hospital is owing to the small number of observations, as the results would be nearly evened in the multiplication of cases. Again, the last three months of the year (the writer's usual service), though furnishing most fever patients, is not the fatal season ; as in all epidemics the worst comes first, and we notice that the cases in the hotter months of July and August, though fewer, are shorter and more intractable. Thus in 1871, during a service of four and a half months from the middle of August, there were eight deaths out of the thirty-seven cases on the south side, of which six were between the 15th of August and the 1st of October. Again, in 1874, there were twenty-four cases and three deaths, two in

September and one on the 26th of October ; but the term of service was only eight weeks, from 15th of September to 15th of November, when Dr. Borland refunded time loaned. Eleven more cases entered before 1st of January, and all of these recovered. The showing would, of course, be much more favorable, if we could evade the numeration of patients moribund when admitted.

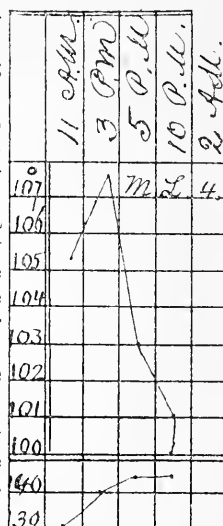
CASE IV. Michael L., laborer, had a chill on being put to bed on entrance. Livid. Abdomen distended, painful in right side ; roused quickly when addressed. Said he had been ill four weeks ; then incoherent. Twelve M. Groaning ; subsultus ; two involuntary thin stools ; crying out wildly ; hand seeks right iliac region ; when on side lies with knees retracted. Three P. M. Less congestion in face, and left hand and arm, but still in right ; pulse less strong in latter. Lungs : backs flat at bases on percussion ; crepitant râles. Front : right apex dull ; loud sibilant and sonorous râles pervading. Right side : fine râles. Heart sounds distant, muffled. When addressed, wild, incoherent cries ; decubitus dorsal. Cannot swallow. Four P. M. Congestion greater. More quiet. Died at two A. M.

*Autopsy.* Both lungs very firmly adherent. At right apex thickening and a few specks of cheesy degeneration.

Both lungs, but mostly the left, congested posteriorly at the bases ; parts of both lungs, float. One ounce and a half of serum in pericardium ; over right auricle roughness from old deposit. Abdomen, eighteen to twenty ounces sero-pus ; much gas ; surface of small intestine and colon much congested. Lymph on liver and abdominal wall ; some feces in abdominal cavity. In lower part of small intestine, for three and a half to four feet, Peyer's patches and solitary glands enlarged and in places ulcerated ; one ulcer had eaten through all the coats, and the base was covered by peritonæum only. Another ulcer at very uppermost limit of disease had perforated, and forces escaped through a hole one-eighth of an inch in diameter.

I am compelled to pass over the consideration of relapses, which have been few, none fatal (the writer has never seen in hospital or other practice a patient dying in relapse of typhoid fever) ; nor is there space for consideration of complications and other most interesting questions. I call attention to a few cases remarking that a number of autopsies is very small, and no attempt will be made to discuss the pathological appearances.

CHART IV.





The history of the H. family is worthy of record. In 1871 the traveler on the line of the New York and New England railroad saw to the east, on the marsh, just after crossing the arm of the bay over which the track runs, several lines of two-story houses, innocent of a horizontal or vertical line in their dilapidation. Their foundations were laid in trenches two feet deep, in which planks were lowered; on these planks the underpinning was laid, and the structures reared. These tenements drained into open ditches, where the tide ebbed and flowed; in a heavy rain or high tide the cellars were filled. The city had forbidden these cabins to be used for habitation, but in September, 1871, there were brought to the hospital from this place Mr. and Mrs. H. (New Englanders) and five children, sick with fever: all recovered but Ella Jane and Laura Etta, whose cases I give. Charts were not in common use in the hospital at that time:

*Typhoid Fever: Ulceration of Gall-Bladder.*—Ella Jane, aged thirteen. September 19, 1871. Four weeks ago, headache, back-ache, tinnitus, diarrhœa. Took to her bed two days ago from cramps caused by baked beans, which pains have continued; cough began the same day: tender abdomen; rapid emaciation. On entrance, pinched and pale; eyes sunken; skin warm; abdomen dusky, tympanitic, distended, its superficial veins swollen. Hacking cough. Lies on back; knees drawn up, but she can extend them. September 31st. Diarrhœa less, abdomen not so tender, no cramps. September 22d. Died.

*Autopsy* in six hours, by Dr. Webber. . . . . Abdomen holds a pint and a half of yellowish serum, with much lymph; liver large, fatty, anæmic; intestines covered with lymph and loosely glued together: omentum much congested: mesenteric glands enlarged. . . . . In large intestine, solitary glands congested, and at upper part ulcerated: in small intestine, considerable ulceration of Peyer's patches, as also in lower three or four feet. Most inflammatory action in region of the gall-bladder, which was glued to the colon at junction of ascending and transverse portion. Fundus of the gall-bladder ulcerated, and small sacs seen, with bridles of mucous membrane dividing them: the adhesions being torn away, one sac was found ruptured, but it was hard to say whether this happened or not during life. No gall-stones, but thick bile in the sacs.

Laura Etta, aged six. September 22, 1871. Well until six days ago, when she began to mope, and vomited at intervals; slight diarrhœa for a day or two. Abdomen tympanitic. Vomiting continued: no rose spots; now no diarrhœa. Pulse from 120 to 138; highest temperature 101° F. Died on the 10th of October.

*Autopsy.* Extensive adhesion of peritonæum to the liver and

gall-bladder, through which were three ulcerations, as well as ulceration of its whole inside lining. One pint of sero-pus in the peritonæum. Liver pale yellow, fatty. Mesenteric glands enlarged. Peyer's patches of two and a half feet of small intestine not at all ulcerated and very little enlarged. Solitary glands not enlarged. Kidneys normal. Spleen firm.

In this connection note the case of James, aged sixteen. Returned well from a visit to Portland three weeks ago. One week after he began to feel sick; chilliness, vomiting, headache, tinnitus. On admission, diarrhœa. The liver enlarged, and below it a rounded tumor in the region of the gall-bladder, where only there is marked tenderness. Next day, pulse in the evening 104, respiration 36, temperature 104° F. Fourteen days after admission the record runs: "The tenderness in region of the gall-bladder is considerably diminished, but as other members of the family have died with perforation of the gall-bladder there is reason for anxiety." But the patient made a good recovery, and was discharged well. Similar cases are reported by Murchison (patient aged nineteen), Barthez and Rilliet (aged twelve), Budd, and others.

I submit the charts and fatal cases of (V.) F. Whall; (VI.) Mary E. T.; (VII.) Mary C.; (VIII.) T. J. D., showing short durations after admittance; (IX.) Fred M., high pulse, and not remarkable temperature at first; (X.) Frank D. W., who appeared to die without known complication.

CHART V.

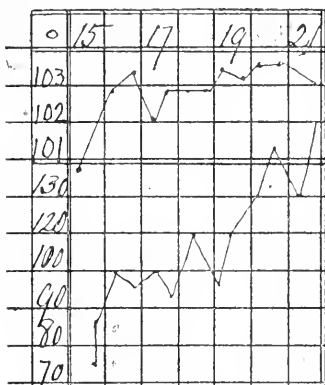
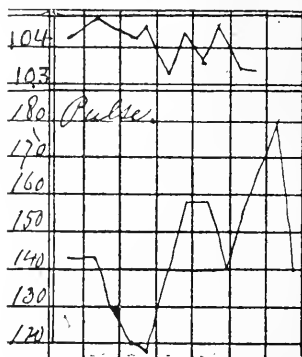


CHART VI.



CASE V. F. W. Typhoid fever; fatal. Two weeks ago, chill; pain in left chest, increased by deep inspiration; cough; no sputa;

severe headache ; diarrhœa ; deaf ; dull ; abdomen distended, tympanitic, painful ; rose spots, *tâches bleuitres*. Sixteenth day, delirious ; more diarrhœa ; tympany. Nineteenth, less diarrhœa. Died twenty-first day. No autopsy. (See Chart V.)

CASE VI. Mary E. T., aged nineteen. Duration of disease unknown ; fatal. She has been on Calf Island during the summer. Pain in head, *nucha*, spine and abdomen ; no diarrhœa until three days ago ; very weak ; has come to the city twice during illness ; cough ; severe pain in left hip and shoulder ; emaciated ; sordes ; anxious ; tongue hard and dry. Third day in hospital, delirium ; feeds poorly ; bears stimulus, but sinks steadily. Died sixth day after admission. No autopsy. (See Chart VI.)

CASE VII. Mary C. Typhoid fever and pneumonia ; fatal. Three weeks ago, rachitic pains ; epistaxis ; cough, without expectoration. Went to bed three days since ; no chill, diarrhœa, nor delirium. Now, prostrated, cannot move ; respiration 50 ; face dusky ; sordes ; ecchymosis of the conjunctiva, right eye ; listless ; abdomen tender, tympanitic ; rose spots. Tub-bath. Brandy, ten ounces. Milk and lime water. Twenty-third day, singing and talking. After three tub-baths and two pints of champagne more quiet, and inclined to sleep. Tubular respiration ; very fine crepitant râles in both backs. Quininé and digitalis ; jacket poultice. Twenty-sixth day, died. No autopsy. (See Chart VII.)

CHART VII.

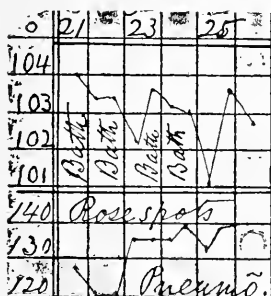
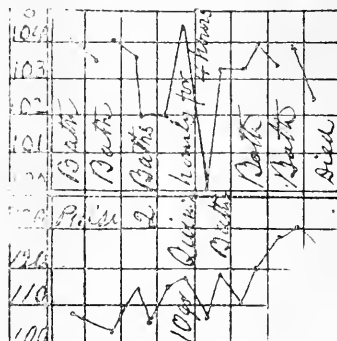


CHART VIII.

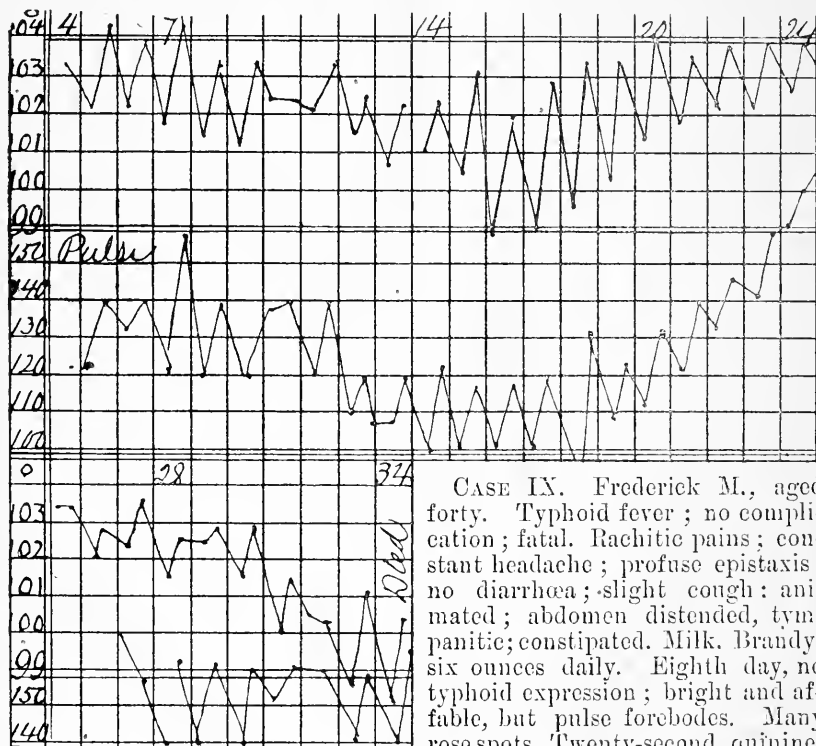


CASE VIII. Thomas J. D. Typhoid fever ; cardiac complication ; fatal. Five days ago, nausea ; chills ; rachitic pains. No diarrhœa, cough, epistaxis, nor abdominal pains. Now, tired, hot, thirsty ; cracked and dry tongue ; mind clear. Milk. Tub-baths. Sherry, six ounces. Eighth day of disease, epistaxes. Ninth, bath out of order. Quinine, ten grains every hour for four hours. Eleventh, worse. Twelfth, dullness at apex ; coarse râles ; harsh, purring, presystolic murmur taking place of second sound ; marked heaving of chest wall, and a distinct thrill perceptible to hand at apex. Thirteenth, died. No autopsy. (See Chart VIII.)

Only one of these cases is noted as having *intestinal hemorrhage*, and the symptom is recorded only two or three times. Of late years no hemorrhages have been reported. They are said to occur once in two hundred cases (MacLagan.) Their fatality is not so great as used to be thought, and the worst case I ever saw was a neighbor of mine, who was blanched and collapsed by loss of blood, but made a good recovery.\*

Leaving important topics, which the scope of a paper like this will not permit us to glance at, I have a few words to say about the temperature and pulse. In reading cases published at this time one finds sometimes the pulse not even referred to, and the temperature made the indication for treatment, diagnosis, and prognosis. For diagnosis it is invaluable. For guidance during the disease I rely on the pulse.

CHART IX.



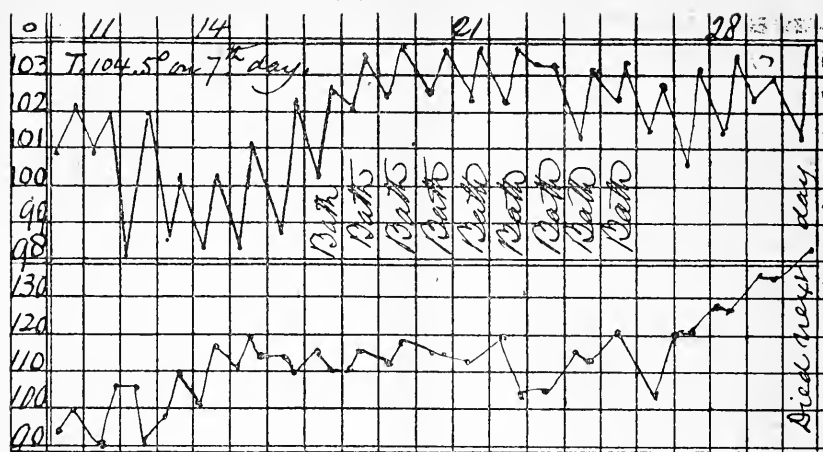
CASE IX. Frederick M., aged forty. Typhoid fever; no complication; fatal. Rachitic pains; constant headache; profuse epistaxis; no diarrhoea; slight cough; animated; abdomen distended, tympanitic; constipated. Milk, Brandy, six ounces daily. Eighth day, no typhoid expression; bright and affable, but pulse forebodes. Many rose spots. Twenty-second, quinine,

ten grains. Twenty-third, champagne, a pint. Looks well. Twenty-fifth, weaker. Champagne, two pints. Twenty-sixth, diarrhoea; brandy,

eight ounces. Twenty-seventh, muttering delirium; takes milk and beef tea well. Twenty-eighth, thin soup and pap. Thirty-first, no diarrhœa; increasing prostration. Thirty-fourth, died. No autopsy.

In these seven years the pulse has given the warning of approaching trouble, even when the temperature has signified nothing untoward. Patients die of typhoid with slow pulse, but none of this series of one hundred and fifty has done so, nor have I seen any other case become fatal with a slow pulse. For a practical indication derived from individual experience I have to believe in the signals thrown out by the artery in the wrist above all. I have seen no patient die whose pulse has not reached 120, twenty-four or more hours before death. Cases come in unconscious, who can give no account of themselves, delirious, passing everything under them, with the thermometer in the axilla  $105^{\circ}$  F., with slight morning remissions, but if the pulse keeps at about 100 to 110 they do well. High morning temperatures are suspicious, but if they mean mischief the pulse creeps up with them. One who has seen much of the disease will anticipate a rise of the pulse as much from other signs as from the temperature. I am by no means depreciating the value of this indication, but am sure that students come to rely on it too much. The chart well prepared for the morning visit, with temperature, pulse, respirations, and dejections noted, gives assurance to the glance at a patient that is of inestimable usefulness, and saves a world of talk and time in the wards. A range of pulse from 110 upwards, it is needless to say, is often followed by recovery. In 1871, out of 29 cases of recovery seven had the pulse at 120 or more, for a greater or less time. In 1872, when the thermometers appeared particularly well up to their work, the temperature reached  $104^{\circ}$  F. and  $107^{\circ}$  F. in eighteen out of twenty-three recoveries; the highest pulse counted from 120 upwards in only four cases. The influence of certain conditions in shooting up temperature and pulse at the beginning of convalescence is odd. Sitting up half an hour in one case raised the needle three or four degrees. Several patients have gone out well with a pulse at 120. One girl lived in a family where I was attending, and I had thus the advantage of watching her for some time. The symptom disappeared as she went on with her work.

CHART X.



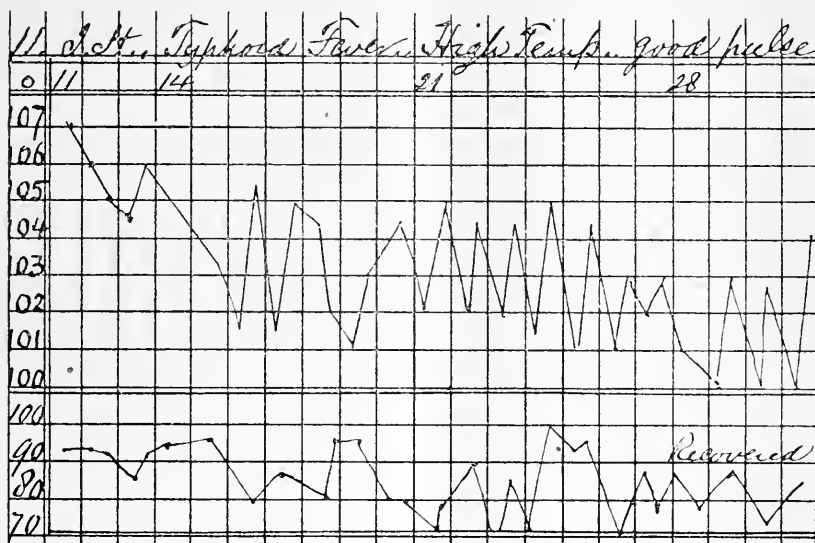
CASE X. Frank D. W., aged twenty-three. Typhoid fever; no known complication; fatal.

Headache, epistaxis, no cough, bad diarrhoea, much tympany and pain, delirium. Temperature 104.5° F. on seventh day. Seemed to be doing fairly well, although the fever was profound until the twenty-ninth day, when respiration became hurried, with tendency to cyanosis. Responded to treatment, temperature falling from 104.8° to 102° F., and pulse from 144 to 130, but collapsed on thirty-first day of the disease. No autopsy.

In these one hundred and fifty cases the treatment has not been the same, the use of stimulants being invariable in severe cases. In 1871, with its thirty-seven patients and eight deaths, hydrochloric acid was uniformly used, and to some extent in 1872, when cool sponging was employed, with two deaths out of twenty-five cases. In 1873, when there was no death in thirteen cases, no fixed line of treatment was adopted, but sponge baths and stimuli in the worst cases. In 1874 the German plan of cold tub-baths was put in practice with some regularity, which, since the completion of the new wards in the last two years, has been perfected. In 1874 there were three deaths out of twenty-four cases; in 1875 four deaths in twenty-five; in 1876 one death in thirteen; in 1877 one death in fifteen. In these four years the mortality has been 11+ per cent. The two fatal cases in 1876 and 1877 were moribund when admitted, though one lived mysteriously several days longer than was supposed

possible. In the years 1871, 1872, 1873, there were seventy-five cases and ten deaths, a percentage of 13½. Three, at least, of this ten could be fairly described as dying when they came in.

CHART XI.



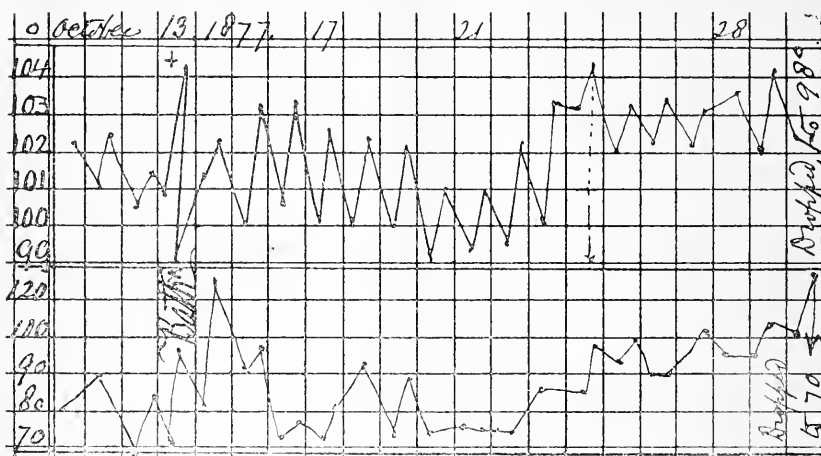
CASE XI. J. H. To show high temperature, with a range of pulse so low as to allay anxiety.

With regard to the use of *cathartics* it is noticeable that most patients who enter the hospital have been purged, very many in a drastic fashion, with no special untoward result. In the case of ward-master Ferris a drachm of castor oil was given (by his own desire) for constipation, followed by three dejections. The next day he complained of soreness: pulse and temperature rose until the fatal issue in five days after. A grave prognosis from his occupation as ward-master, with his age of fifty, had been made. He never would have recovered, but it is wished that the oil had not been given.

The use of *stimulants* is regulated by the state of the pulse; if the beats are growing in rapidity and losing in strength, if they pass 110, 115, 120, a half ounce of spirits or a glass of champagne is given. If there be from any cause doubt of the need of alcohol

in a rising pulse, the doses is given with the finger on the wrist, and the influence of the drug on the circulation marked. If the pulse steadies or slows, the wine is repeated on its rising. In the case of Lizzie C. you will see that twenty-four ounces of brandy were swallowed daily for days together, during which time the face did not flush, the eyes were not suffused, the speech thickened, the tongue loaded, nor the mind clouded. Some fever patients cannot be made drunk by all the alcohol you can pour into them, while others do not bear champagne in small doses.

CHART XII.



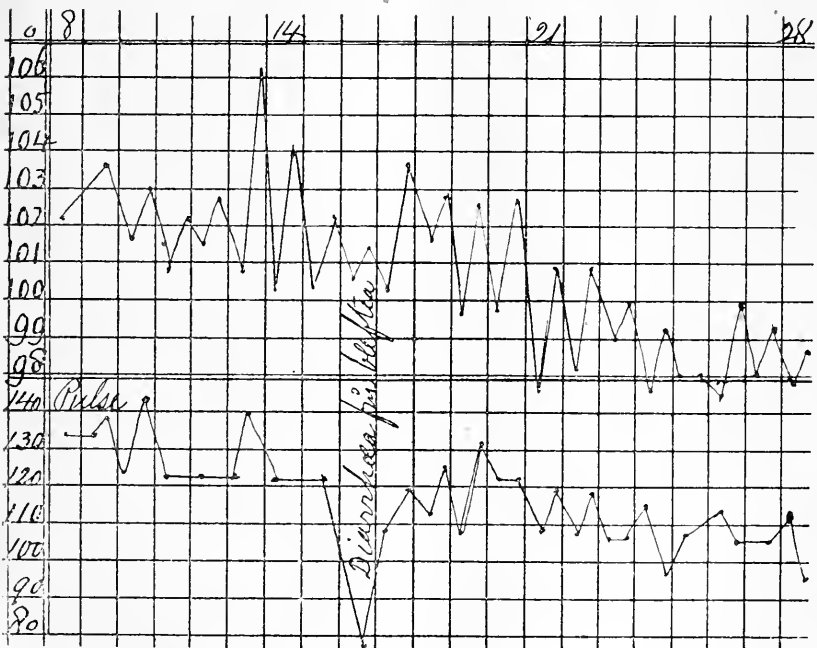
CASE XII. Joseph B., aged 22. Typhoid fever, with alarming nervous symptoms, but good pulse. Admitted October 10, 1877. Unconscious, with no history. Eyes shut; if aroused, refuses food; inclined to indefinite self-accusation; abdomen flat, very tender, gurgling; rose spots. Twelfth day, active delirium. Twentieth, noises in head. Tub, twenty-fourth, reduced temperature from 104.6° to 98° F. Twenty-ninth, delirious; wants to rush about. Camphor one grain, opium half a grain, every four hours. Tub in evening. Looks ghastly. Thirty-first, no delirium. Amount of stimulus not recorded. Not until November 11th did he seem to "take notice."

I know very well that twelve ounces of spirits daily is said to be all that the worst case needs, but this limit is constantly and necessarily exceeded with favorable results. As the fever abates the amount is gradually lessened. The reason hard drinking like this



does not make drunkards is that patients so ill as to need this heroic stimulation have their senses so much blunted as not to know whether they are drinking brandy or beef tea. When the need departs the natural indifference or distaste returns. A medical friend tells me that during his fever and convalescence he had a craving for alcohol that could hardly be satiated, and its use never affected his head. One day, on the return of health, he suddenly lost the desire, which never re-visited him, except in a normal and decorous manner. Of course stimulus given when it is not needed has its usual effects. A girl was admitted one morning with high fever and rose spots, whose aspect and history did not agree with the extreme temperature and pulse. She had been treated with stimuli from the onset of the fever. All wine having been withdrawn, the pulse and temperature dropped at once to a range indicating a mild though undoubted course of fever.

CHART XIII.



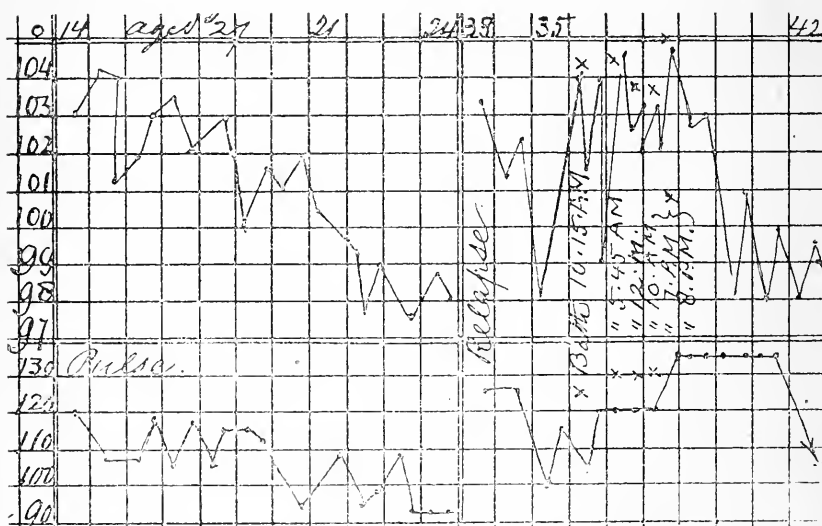
CASE XIII. Alexander M., aged twelve. Typhoid fever, with high delirium. Fought against baths, and was treated by stimu-

lants,—brandy, twelve ounces daily. Recovered, with contraction of right knee and elbow. Beef tea, given on the fifteenth day, produced diarrhœa, which lowered the pulse from 120 to 76. Sixty-three days in hospital.

Quinine and salicylic acid have been used with good effect to lower the temperature and pulse, of which, as you see in the example of Lizzie C. (Chart II.), twenty grains of quinine or thirty grains of salicylic acid are given in two doses, the latter an hour before the usual time of rise of the thermometer and pulse. Either reduces the temperature two or three degrees and the pulse five or ten beats, subtracting so much from the waste going on. I say no more of these drugs the action of which has been demonstrated, but pass to the experience with the baths.

The tubs in the new wards of the City Hospital are so arranged that a walk round each is afforded, and the labor of giving a bath greatly simplified. The patient's bed can be brought along-side the tub; he is lowered on the sheet into the water if he be feeble, with

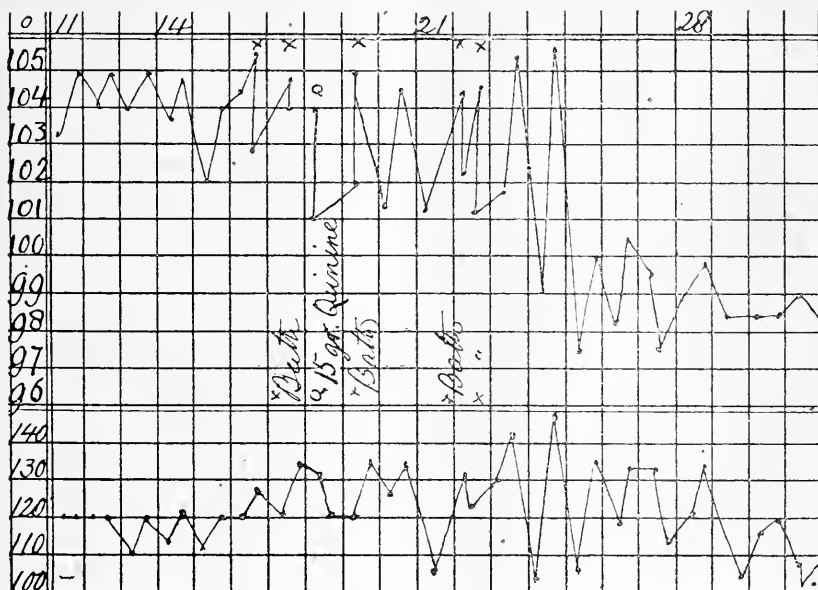
CHART XIV.



CASE. XIV. Josie B., aged 27. Typhoid fever. Relapse. Baths. Recovery. Rachitic pains; rose spots; deaf; stupid. Sat up twenty-sixth day. Thirty-third, relapse, with diarrhœa; deafness. Thirty-seventh, lips parched; sordes. Brandy; tub-baths. Fortieth, defervescence.

the minimum of exertion. The orders are to give a bath when the temperature reaches  $103^{\circ}$  F. and the pulse is above 110, the water to be at  $100^{\circ}$  F., and lowered by a bit of hose on the cold-water tap to  $80^{\circ}$  or  $70^{\circ}$  F., ice may be used to effect this. If he shivers, take him out and give him half an ounce of brandy; if he does not, keep him in ten to twenty minutes, when his temperature will have dropped two or three degrees, or will do so in an hour after, and the pulse lowered some ten or twenty beats. If the pulse does not come down, you may doubt if your baths are doing good; but if the patient enjoys them, as he often does, I have seen no harm follow. The febrile action will then begin to increase, and in two hours more another bath will be needed, and perhaps another. Some patients fight the baths so as to antagonize their benefit, when

CHART XV.



CASE XV. Katy L. aged twenty. Typhoid fever; high temperatures and pulse. For ten days rachitic pains; diarrhoea; vigilance; abdomen full and tender; rose spots; deaf, but mind clear; slight tympany; three to five dejections. Twenty-first day, delirium; tongue hard, dry, brown; respiration jerky, but pulse better. Marked fall of temperature and pulse after baths. Defervescence (eight degrees) on twenty-fifth day.

they are relinquished, and we have our alcohol to fall back on, with good results, as in the case of Alexander M., 1877. See Chart XIII.

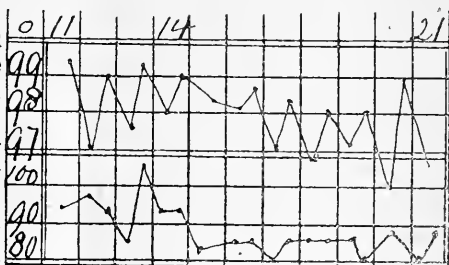
I close by following the course of treatment after the admission of the patient, and getting his history, if it can be extracted from him or his friends. Perfect quiet is insisted on, and the least kneading of the abdomen, tapping at the chest, vexing with questions, changing of linen, and fussiness that human nature will permit. In private practice the hardest thing is to get your patient let alone. I have seen a patient with pneumonia killed in private practice by an unnecessary shifting of bed and linen.) He is made to drink a cup of milk every two hours, if he knows enough to do it; if he does not, it is administered like medicine. And it may be here noticed how the attendants of patients outside the hospital will faithfully exhibit drugs, and how carefully we have to impress upon their minds the superior claims of food. A gnu of milk, which is generally drunk more readily if iced, stands by the bed, and thirst commonly induces the use of three or more pints daily. The girl who took twenty-four ounces of brandy a day also contrived to absorb eighteen pints of milk in the same time. Some patients, mostly private patients, are averse to milk, which is made more palatable by the addition of Apollinaris or other gaseous waters. Others will take a gallon a day, and leave the hospital avowing that they have had nothing to "ate" for three weeks. If our patient's pulse keeps below 110 or 115, nothing more may be needed; and a proportion of patients, whose exact number I have neglected to fix, have no other treatment. Besides the fact that beef tea is so often ill made,—and the philosophers now declare that there is "nothing in it,"—it does often create diarrhœa, as seen in the chart of Alexander M. (Chart XIII), where the flux brought the pulse down from 120 to 76, increasing the prostration.

Diarrhœa requires first the bed-pan. It may seem trivial to mention this, but if one takes it for granted that the patient outside a hospital is using one, he may find that a dangerous waste of tissue and strength is going on from the patient's rising to use the vessel. The symptom should be controlled if it amounts to more than three operations daily—which is all I wish the patient to have—by the

use of Harley's pill of one grain of opium and a quarter of a grain of sulphate of copper every second operation.

CHART XVI.

CASE XVI. Abbie G., aged thirty-two. Typhoid fever, with very low range and masked symptoms. Bed ten days before admission. Red spots; sordes; tympany; tenderness of abdomen.



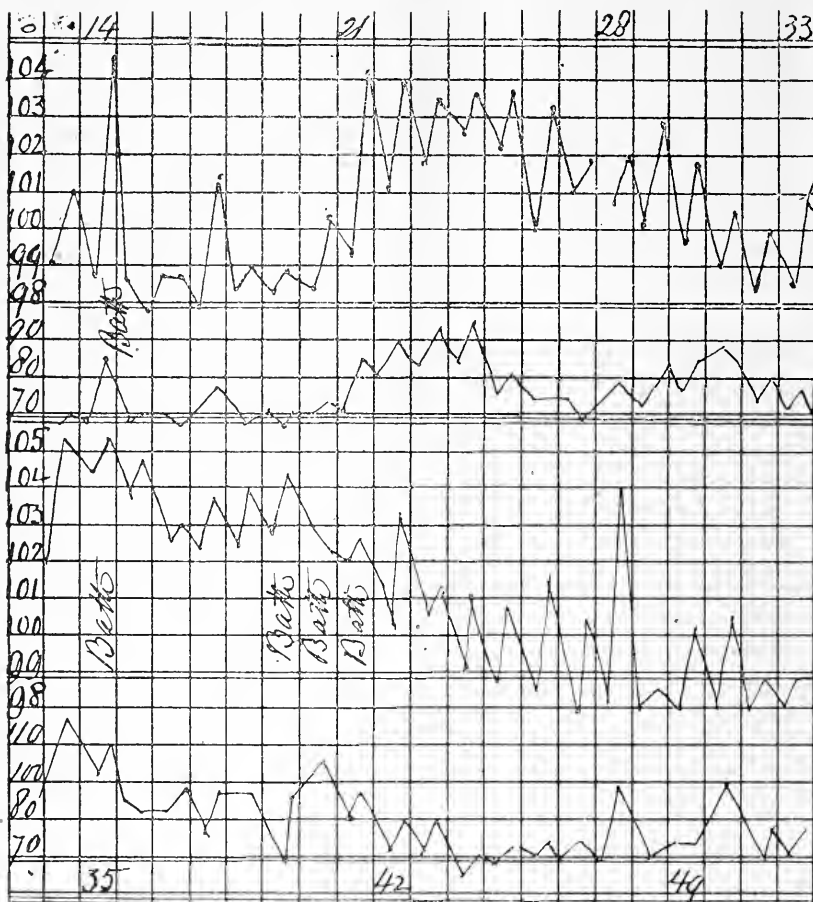
If the patient sleeps fairly, a mild delirium requires no treatment; if any is necessary, Graves' pill of opium and camphor is often serviceable; his prescription of opium and antimony for furious delirium I have used, but think baths and stimulus answer better. With delirium comes vigilance, which may be palliated by a sponge bath or a glass of wine, a Dover's powder if the skin is very dry, ten or fifteen grains of chloral, or forty grains of bromide of potassium. Fierce delirium sometimes requires restraint, and if baths and alcohol be not required by other symptoms, then fifteen grains of chloral, with thirty or more of bromide of potassium, repeated every two hours, are frequently of use. I have had to attack intolerable headache simulating meningitis with a subcutaneous injection of one third of a grain of morphia.

Temperature and pulse ascending, the baths, stimulus, salicylic acid, or quinine come into play, according to circumstances and the physicians' judgment.

Meteorism is exceedingly troublesome at times, for which I have used turpentine by the mouth and by rectum, with less satisfaction than authorities promise; its application as a stupe is quite as useful; its great advantage at the time when the tongue cleans in flakes I have not observed, because I have thought other stimulus more palatable and efficient. A typhoid patient requiring aspiration of abdominal gas is ordinarily too far gone, I suspect, for a favorable result, but the operation may afford comfort. If cough is annoying, and does not proceed from serious trouble in the lung, the cough mixture known as Dr. Bowditch's relieves it. For epistaxis in fever, I have had to plug the nares from behind twice in consultation, but

not in hospital. As the patient convalesces he is allowed light puddings, next soup and bread, when he begins to tease for food. If the temperature has dropped to normal for two days, with clean tongue and flat belly, and the pulse keeps up, it is the pulse of weakness, and calls for solid food and wine. A bit of steak given

CHART XVII.



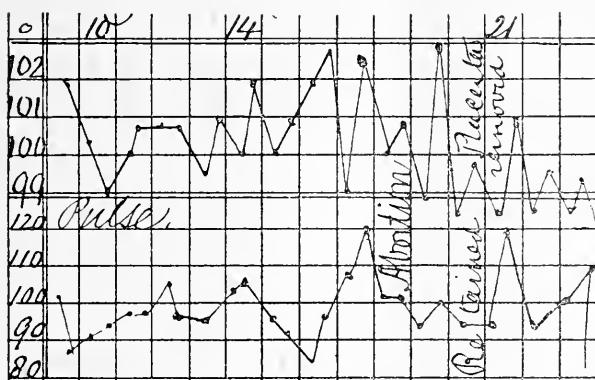
CASE XVII. John G. Typhoid fever, phlebitis of left leg. Did well until thirty-fourth day. Rose spots and blue maculae. No diarrhoea. From twenty-first to twenty-fifth day high morning temperature, but good pulse; normal on thirty-first evening. On

thirty-fourth, both rose high, with symptoms of phlebitis. Two or three other cases in the one hundred and fifty; all did well.\* MacLagan once in two hundred cases. In hospital sixty-two days.

too early, sitting up too soon or a few minutes too long, may send temperature and pulse flying upwards, and to make haste slowly is the best policy. Aitken says in the largest capitals that a soldier is not fit for duty under four months after an attack of typhoid fever. Few of our cases have as much law given them as that, and one of the most trying duties is that of discharging patients who are well, but not strong enough to go to work, some women are taken care of by St. Luke's Home for convalescents, which we wish was able to double its capacity, and receive men as well as women.—*Boston Medical and Surgical Journal*.

CASE XVIII. Nelly P. Typhoid fever. Abortion seventeenth day. Recovery. Began with general pains. Second day, vomiting and diarrhoea.

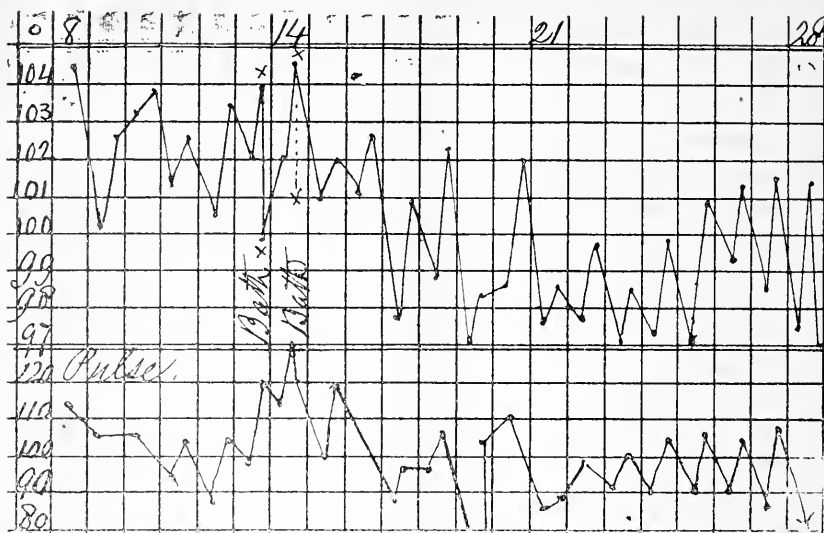
CHART XVIII.



Catamenia absent three months. "Is not pregnant," but had vomiting six weeks after menses stopped; and breasts point to pregnancy. Thirteenth, tongue cleaning in flakes. Sixteenth, rose spots. Seventeenth, chill. "Turns have appeared." Uterus enlarged; os patulous. Eighteenth, water broke at three P. M.; patient surprised by finding a fœtus in bed. Placenta retained without hemorrhage; removed on the twentieth. Fever gone on the twenty-fifth. Similar case in private practice did as well.

\*See Murchison, Continued Fevers, page 195.

CHART XIX.



CASE XIX. John M., aged 22. Typhoid fever. Baths. Recovery. Delirious; rose spots. Tenth day, walk at night and defecates on floor. Twelfth, teaming all night. Thirteenth, tub at eight P. M. reduces temperature from 104° to 100° F. Fourteenth, pulse dierotic. Brandy half an ounce every two hours. Tub at six reduces temperature from 104.8° to 102.5° F., and pulse from 130 to 120. Fifteenth, delirious; tries to get out of bed. Eighteenth, mind clearing, and clamors for a good dinner; free sweating.

*The Purgative Effects of Hypodermic Injections of Aloin* has been investigated by Dr. Frohmüller, who states that a solution of one part of aloin in 25 parts of very warm water will have the same purgative effect, when injected hypodermically as when taken internally. Two injections are usually necessary to produce the desired effect in from 6 to 14, very rarely in 2 to 3 hours, there being scarcely any irritation and never an abscess caused, where injected. Hypodermic injections, with extract of aloes (1 part in 10 parts of water) also proved efficacious, but produced a stronger inflammation, where injected, than aloin.—*Pharm. Post.—Am. Jour. of Pharmacy.*



## NOTES ON EPIZOÏTIA OF HORSE-POX.

Observed at Sétif, (Algeria) by Dr. PINGAUD, Surgeon-Major  
in the French army. Communicated to the French  
Academy of Medicine by Mr. LEGUEST.

## [TRANSLATION.]

An epizoïtia of horse-pox having broken out in February last, among the reserve horses at Sétif. I took advantage of the opportunity to study the disease, at first with Mr. Visoux and afterwards with Mr. Thomas, his successor, both among the most distinguished chief veterinary-surgeons of the army.

I was soon convinced that we had under our eyes the true horse-pox such as it had been described by Mr. Bouley in his excellent "Dictionnaire de Médecine Vétérinaire," which he is editing jointly with Mr. Reynal.

Struck by the cleanness, I am almost tempted to say neatness, of some of the pustules, on some of the cattle I examined, of those of the mouth especially, I made up my mind to try some inoculations upon man, but not before having carefully weighed the possible consequences of such an experiment, and having consulted Mr. Visoux on the subject.

We selected, Mr. Visoux and I, for vaccinifer a four year old grey horse, full of vigor, and the excellent health of which had never changed since she had been bought, five months before, for the government. The cutaneous eruption was far from abundant in this animal; indeed, hardly a few scabby pustules could be found in the folds of the pasterns.

But in the mouth and especially behind the upper lip, the mucous membrane was thickly studded with innumerable acuminate vesicles, red at their base, opaline and translucent at the top, showing in short, that characteristic pearly appearance so well observed and described by Mr. Bouley. These vesicles were to furnish us with the inoculating matter.

As subjects of four experiments we took seven young recruits from the 18th hussar regiment, who had never been vaccinated and whose constitution showed, apparently at least, no visible blemish.

The inoculating liquid was put by Mr. Visoux upon *new* lancets and I performed, myself, the operations with all the care desirable.

Six days later, six of the men operated upon showed vaccine

pimples, small, it is true, but of the finest appearance, and showing this peculiarity, that their base was hardly inflamed, contrarily to what is so often observed after inoculations from arm to arm; four of these six men were afterwards used, the next day, and the day after, to inoculate 64 more, of whom eight only had never been vaccinated. My success exceeded my hopes; there were 40 positive inoculations, that is to say a proportion of 64 per cent.

Without stopping at the remarkable result obtained if it be compared with that generally produced by re-vaccinations from arm to arm, I take note now, of this fact, that contrarily to the opinion of one of our learned academicians, *not one* of the subjects directly inoculated with horse-pox presented the symptom of local inflammation. Among some of the second class, a few pustules assumed a furunculous appearance, *but nothing more*.

Our experiments were not limited to the above; we inoculated with horse-pox, at the same time and under the same conditions, several heifers, which allowed us to re-vaccinate with cow-pox a greater part of the garrison. Now, a fact which proves, coinciding with the assertions of Loy and of a Anzias-Turenne, how much the equine virus is weakened by passing through the cow,—the proportion of successful vaccinations produced by the latter inoculations fell from 64 to 28 per cent.

Although I was tempted to increase the number of those experiments upon man, with a view of checking the results obtained by my first inoculations, I had to give up the idea on account of the material difficulties which their execution presented, and especially because of the necessity every time of killing the animal in order to obtain the virus with all the desirable care and ease—so that I only inoculated two more cavalrymen with horse-pox taken again in the mouth of the animal we had already used. The result of this second experiment was negative, and I attribute the failure to the fact that most of the pustules being already opened and exhausted, the assistant surgeon to whom I had entrusted the duty, had taken upon his lancets hardly anything but mucus and saliva. I have the more grounds for believing the facts to be so, that I was struck by the exceeding viscosity of the liquid presented me.

Finally, some time later, I made a tenth and last inoculation on the human subject, which failed like the preceding two, and probably for the same reason.

As to my experiments upon animals, they were many and varied in the highest degree. Thus we inoculated not only the liquid furnished by the pustules of the mouth, but some we gathered from the nose, from the commissure of the lips, from the folds of the pasterns, from the scrotum, etc., under the skin of heifers, horses and sheep.

And lastly, we made with Mr. Thomas, who was the first to suggest them, some experiments upon scab which was then epizootic in the neighborhood of Sétif and which we inoculated, unsuccessfully by the way, to heifers, horses, sheep, and even to turkeys. I may give sometime a detailed description of these experiments; now I will merely resume in a few words the principal conclusions to which we can safely come to-day. The inoculation of horse-pox upon man is without danger, provided good care is taken to gather only the serous and transparent liquid found in the pearly vesicles of the horse's mouth.

*I have never dared and never would dare*, if the occasion should present itself, to inoculate upon the human subject, virus taken from the pustules of the animal's skin, although similar experiments might be made with impunity upon the cow; even more than this, it seems that the pustules of cow-pox obtained in this manner are larger and better developed than the others.

But man does not possess such immunity. Several authors, Loy, Bouley, Reynal, etc., have related cases of inoculation, mostly accidental, of the horse-pox of the limbs, of "grease," as it used to be called, which was followed by more or less serious inflammatory accidents, of the lymphatic glands especially. I can the easier believe them, that a similar case came under my observation: one of the farriers of the horse-reserve at Sétif, who, in dressing the pasterns of sick horses was inoculated with horse-pox in the hand, raised a fine vaccine pustule and had afterwards a violent inflammation of the lymphatic vessels (angiolencite).

Is it not evident in such cases these evil effects, inflammation of the lymphatic glands, phlegmon and adenitis, are the result, much more of the putrid matter formed on the spot, around the cutaneous pustules, than of the equine virus itself. I confess for my part that from the day I had examined and especially smelt rather closely some of the pasterns affected with "grease," my mind was

enlightened regarding the origin of the disorders attributed heretofore solely to the inoculation of equine virus. I saw clearly that the inoculation of putrid or even only purulent matter which the lancet must necessarily take up along with the vaccine virus, must be highly dangerous, and henceforth I scouted the idea of attempting inoculating the human subject with vaccine taken from the entaneous eruptions of horse-pox.

There remains the important fact, which future experiments will probably not controvert, that the inoculation of equine virus, taken in the mouth of the horse, with all the precautions-mentioned, may not only be practiced without danger upon man, but gives results far superior to those obtained by ordinary means.

The success of the inoculation is unfortunately dependent upon a certain delicacy of operation, which the form and the anatomical seat of the pustules of horse-pox required. These pustules which are abundant on the internal side of the lip and under the tongue, necessarily surround in their inflamed base a certain number of small salivary glands of the mucous membrane. Their upper extremity alone, which juts above the surface as an acuminate vesicle, opalescent and translucent, encloses beneath a thin epidermic pellicle the virulent liquid. If the vesicle be opened with the greatest care, the operator will be astonished by the extreme thinness of the liquid layer it encloses. Hardly is the vesicle opened when it collapses, and from this collapse results the more or less umbilicated appearance noticed in the empty pustules alone. If then the pustule be compressed at its base with ligature or forcipressure tweezers, as it is done with heifers to get cow-pox, a thick, ropy and viscous liquid, which adheres strongly to the lancet, oozes out; and is nothing but concrete mucus or saliva. The inoculation of this last liquid upon the human subject or heifer, never gives but negative results. The virulent liquid is then solely represented by that small layer of thin and limpid serum which raises the epithelium towards the orifice of the mucous glands; thence a first difficulty in collecting the virus.

But this is not all: the dry fibrous and hard bodies which constitute the principal food of the horse, open the vesicles when hardly formed, and often before they have had time to fill, to such an extent that when the mouth is searched for vesicles, hardly a few of

them can be found intact, unless precaution has been taken beforehand to put the horse upon semi-liquid or green food.

If we consider these difficulties upon the one side, and upon the other, the fact that the inoculation of the cutaneous pustules of horse-pox to the udder of the heifer produces fine vesicles without inducing in the latter animal the accidents observed upon man, the preference given to this latter way of obtaining virus can be easily accounted for, though this virus be much less active than the one obtained directly.

There remains yet one serious objection, that of the possible transmission of glanders, which will always induce the practitioner to hesitate before inoculating the human subject directly with horse-pox. When, however, there has not been for a long time a single case of glanders in the neighborhood, when horse-pox develops in an epizootic form upon young, well-fed, and healthy horses, as was the case at Sétif; when the eruption in the mouth, which really fails to appear, shows anatomical characteristics which do not leave the least doubt as to its nature, which, moreover, may be previously tested by inoculation upon the heifer, then under such conditions, one may be authorized to give the human subject the benefit of the action of a protective agent, against variola, much more certain and powerful than the vaccine raised either upon a cow or a child. If, moreover, we were to institute a comparison between the risks of the transmission of glanders on the one side and of syphilis on the other, by the fact of direct inoculation from the horse, or from the child to man, we should, perhaps, confess that the former are very remote as compared with the latter. There can never be an absolute certainty that a child is not syphilitic. A proof of this came under our own observation a short time since; while we may acquire, if not absolute certainty, at least very great presumption that a horse, observed during a prolonged space of time, of which the antecedents, the age, the temperament, the constitution, the habitual state of health, etc., are known, cannot be suffering from glanders. And these presumptions will almost acquire the character of certainty if we take to account the fact that horse-pox is met with almost exclusively in young horses, while glanders, exactly the reverse, is in the large majority of cases found only in adult and old horses.

I cannot conclude this short notice without giving a just tribute of praise to Messrs. Visoux and Thomas, who have been quite as much my advisers and guides, as my devoted co-laborers, in the difficult study which we pursued together, of a question yet much-controverted and the evolution of which was very delicate.

These two distinguished surgeons have studied the disease in all of its phases, giving their especial attention to its anatomy and diagnosis.

One may be assured beforehand of the exactness of the description they propose to make of it, which description will on several points complete the one already given by Mr. Bouley in his remarkable article on horse-pox.

T. F. W.

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OFFICE OF SUPERINTENDENT NORTH CAROLINA IN-  
SANE ASYLUM, RALEIGH, N. C.

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DEAR SIR:—In the execution of the provisions of Chapter 161 of the acts of the late General Assembly, entitled, “An Act abolishing the Insane Asylum of North Carolina and incorporating the North Carolina Insane Asylum,” the Board of Directors have established the following rules:

1. The Superintendent in the admission of applicants into the Asylum as patients, shall consider the application in the order in which they are registered in the book kept by him for registering of said applications according to Section 14, Chapter 161, Acts 1879. No applicant considered incurable by the medical officers of the Asylum shall be admitted as a patient until all who are deemed curable have been provided for.

2. No application made prior to the passage of the Act of 1879, shall be considered unless the same shall have been renewed since that time.

3. That the Superintendent furnish to the authorities of the several counties respectively a copy of the foregoing.

Very respectfully,


EUGENE GRISSOM,  
Superintendent.

## EDITORIAL.

### NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED  
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, }  
THOMAS F. WOOD, M. D., Wilmington, N. C. } Editors.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

### A WORD TO THE MEDICAL STUDENTS OF 1879.

We deem this an opportune time to remind the medical students now preparing for their degree, and who expect to practice in this State, that their examination for State license in the coming year will be performed with due regard to the higher standard demanded by the present state of professional progress.

The examinations for the last year were very unsatisfactory and gave the Board great concern. Not that some of the examinations were not sufficiently creditable, but that the most of them were far short of what they ought to have been. The Examiners are tired of this way of being obliged to shape the questions propounded, to ensure an answer, merely to save the applicant from failure. They are willing to give each candidate a fair showing, and wait patiently for proper answers, but they are determined not to put the answers in their mouths.

The law will be executed in the same spirit it was conceived, and the standard will not be lowered to suit the misfortunes of unprepared men. It is, therefore, well for medical students to bear in

mind that their diploma is no guarantee of proficiency, and that they must strive to attain the standard adopted by the Board.

Each candidate is examined in Anatomy, Physiology, Chemistry and Pharmacy, Practice of Medicine, Obstetrics, Materia Medica and Therapeutics. The examinations are oral and written, and are conducted separately by each examiner in his room, or in case of doubt or by request of the candidate, before the entire Board. The applicant will have to satisfy four out of seven of the Examiners that he is possessed of a good medical education, and he must also present the endorsement of some one known to the Board, as to his moral character.

The rejected applicants of last year, and any other persons can stand for their diploma. One or two of the most successful, because the best cultivated, of the applicants last year, were men who had had the advantages of only one course of lectures. These men had worked manfully and diligently for many years, and although they were more carefully scrutinized than any other, their endorsement was all but unanimous. These remarks are made, not to encourage undergraduate students to come before the Board, but to encourage those who are struggling and who are satisfied of their proficiency, not to give it up. The Board regrets that undergraduates should apply, nevertheless, but the law does not bar them, and neither can the Board.

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### SOME EXPLANATORY DIRECTIONS WHICH SEEM TO BE NEEDED.

During the course of the organization of the North Carolina Board of Health, owing to the great demands upon the Secretary, many essential items seem not to have been understood, and the following circular letter is reproduced for the information of all concerned :

OFFICE OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF  
HEALTH.

WILMINGTON, N. C., October 31st, 1879.

DEAR SIR:—From the experience we have acquired since the North Carolina Board of Health was organized we are satisfied that



the scope of our work is not sufficiently understood, nor its importance appreciated by the medical profession, therefore the necessity for this personal appeal to every doctor in the State.

Six months ago the North Carolina Board of Health was organized under the Act of the General Assembly of 1879, by electing six members of the Medical Society of North Carolina, and by the appointment on the part of the State by Governor Jarvis, of three more. The Board met and took into consideration the work that could be accomplished with the limited means given them by the State and notwithstanding the disappointment felt at the lack of means, the work was courageously inaugurated. Circulars were several times sent to every county in the State, setting forth the objects of the law and indicating the outline of the work expected to be done.

At this date, *forty-five* counties have completed their organization, leaving *forty-nine* yet to organize.

As the success of the work depends upon the aid given by each individual physician, it has been thought best to give a statement of the special objects we have before us. The Board is willing to share whatever success it achieves with the profession, but the profession as a body cannot escape the odium that the failure in this work will bring upon it.

The chief aim of our work is to inaugurate preventive medicine, and establish it on such a basis as the present state of our knowledge will permit. To do this there is much elementary work, the principal of which is in keeping faithful records.

This work must be the basis on which to found intelligent study of the number and causes of deaths. To facilitate the collection of such statistics, the Board has prepared several circulars, and forms, which are freely distributed. But without each physician will conscientiously keep these records, and return them to the Superintendent of Health, no accuracy will result. It is an easy matter for a doctor to record in his memorandum book the disease of which his patient died, the age, sex, and color also, and the aggregation of the simple items will enable the Secretary when they all are collected and tabulated to return to the doctor to pay him for the trouble, a statistical table of the percentage of mortality in any given disease. To make this more valuable though, we go

farther, and ask the doctors to record in the memorandum books furnished them, the diseases prevailing in their practice, this does not add materially to the amount of recording, but in the end enable us to compare those falling sick with the number of deaths, and so enabling the percentage of deaths in any of the diseases to be known. To the conscientious practitioner this should be greatly desired; for if by comparison of his results with the general results he finds that his mortality is greater he would set about to inform himself of the causes of unsuccess; or on the other hand take courage if he is succeeding better than others. In this view of the case vital statistics is not just a matter of curious information, but a help to the intelligent practice of medicine.

The Superintendent by the law is under penalty to make his report to the Secretary by the 10th of each month, and the failure on your part, hinders him in the performance of his duties, and is unreasonable and unjust both to the individual doctor and to yourself as a member of the profession seeking to further its interests.

It is the design of the State Board, to issue from time to time circulars on sanitary matters. Three of these pamphlets have already been issued: "Method of Performing Post-Mortem Examinations," "Circular on the Ventilation, Drainage, Drinking Water, and Disinfectants," and "Sanitary Engineering," the latter by Major Wm. Cain, Civil Engineer of the Board. These publications will be sent to any one desiring them, if the postage, three cents, is sent. Other pamphlets are in preparation on the "Storage of Drinking Water," "The Prevention of the Spread of Diphtheria," "What is meant by Protective Vaccination," and others.

The most important of the investigations by the Board for the first two years, is to enquire into the drinking water, by analysis, and also to examine food, drugs, disinfectants and other articles by the same means.

Sufficient means are now at the disposal of the Chemist of the Board, Dr. A. R. Ledoux, to enable us to push forward such analyses as are now in hand, and also to work regularly onward, as fast as may be consistent with accuracy. Directions will be given to any one enquiring, as to the way to proceed on the part of those persons desiring analyses, upon application at this office. The analyses of drinking water so far performed have resulted in marked efforts at sanitary reform.

Only a few items of our work have been mentioned, but enough has been said to show how deeply every physician should be interested. We are aware that our work is imperfect, but is it in the nature of things that seed-time and harvest should come together?

We earnestly bespeak your aid as recorders, as advisers, as supporters, and believe you will honor us in this respect.

Yours very truly,

THOMAS F. WOOD.

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The circular of the Secretary of the North Carolina Board of Health deserves especial consideration. Great efforts are being made with small means, to organize all the various agencies possible, in the State.

We must go forward or fall behind in the work of sanitary progress. At present we are barely organized, and for no better reason than that the pay of some of our Superintendents is small. But are we not pioneers in the work, and will we not all be under the ban if we fail? We do not see how any intelligent physician can fail to lend his influence to the work. The time is not far distant when it will be the pride and glory of a North Carolina physician that he was an original worker in preventive medicine.

In one county where the pay is \$25 a year the Superintendent gives vent to the following ill-humored expression in regard to the blank forms: "the best lawyers in the State cannot understand the meaning of all the blanks and have Dr. Taylor and Dr. Stillé to help them." No one would express such an opinion after reading the blanks sent with the directions. Each Superintendent is furnished with the general directions following:

NORTH CAROLINA BOARD OF HEALTH, OFFICE OF SECRETARY.

*To the County Superintendents of Health:*

In reply to questions frequently received by letter, as to the duties of County Superintendents of Health, the following general items of information are given:

• THE DEATH RATE.

Preliminary to all work, the death rate should be carefully registered. It will be impracticable for the Superintendent to know, personally, of deaths and their causes in his County; and in order to aid in the collection of these statistics, Memorandum Books are

furnished for distribution, not only to members of the County Board of Health, but also to all practitioners of medicine in the County. In addition to this, No. 6, Death Certificate, is furnished for distribution. In some sparsely settled counties deaths occur and there is no attending physician to give the certificate. In such cases it is best to send a blank to the officiating minister, as an unprofessional record is better than the failure to get the return.

#### DISEASES DANGEROUS TO THE PUBLIC HEALTH.

When such diseases occur, all diligence should be used to make early enquiry as to the origin of the first case, and prompt means adopted to quarantine them according to Section 9 of the Health Law. The Physicians' and Householders' Blanks are furnished for distribution to physicians and intelligent householders, that all items necessary to complete the history of the invasion of the diseases mentioned may be investigated and written up.

#### MEDICO-LEGAL POST-MORTEM EXAMINATIONS.

With a view to a uniform system for investigations under this head, a pamphlet containing minute directions founded upon the German Law of 1876, has been prepared, and it is earnestly desired that the returns of examinations will be made complete.

#### BLANK "B" RETURNS.

The blanks issued are intended to be returned annually. A careful reading of it will show the scope of the observations necessary to carry out the design. The work could be entrusted to the members of the County Board of Health from the different townships, to whom a blank may be issued with explanations. The advice of the City or County Surveyor in the general report would aid the more accurate composition of the report. To elucidate the topography, sketch-maps of townships would be highly esteemed by the State Board of Health, with an ultimate view to publication. If these reports are fully made, the labor of making a sanitary map of the State will be materially lessened.

#### DRINKING-WATER.

By consultation with Professor Ledoux, the Chemist of the Board, a plan has been agreed upon, which will enable him to make for the Board an examination of the drinking waters in the State. The Secretary especially desires the coöperation of Superintendents of Health in this work. It is desirable that several specimens of drinking water should be selected from every County, keeping always in view the necessity of having representative specimens, that a general idea may be obtained of the condition of wells and springs in a given neighborhood, town or city. Specimens recommended by Superintendents will have early consideration from the Secretary. In every case the packing must be done in accordance with Dr.

Ledoux's circular, and the freight expense borne by the applicant, as no means have been given the Board for this purpose.

#### VACCINATION.

It must be insisted on, that every person entering the poor house, work house and jail of the County shall be vaccinated by the Superintendent upon his first visit after new inmates have been received, except in such cases in which he is satisfied that the persons are already protected. Our State has been so long exempt from visitations from small pox that it is highly desirable that vaccination, the only certain prophylactic known, should be generously employed, that we may have continuous exemption. A pamphlet is in preparation on this subject, which will put before Superintendents much of the neglected literature of vaccination brought down from the Jennerian times. Vaccine will be furnished according to the provisions of Section 11 of the Health Law.

#### ABATEMENT OF NUISANCES.

In proportion to the diligence and intelligence with which the County Superintendent carries out Section 10 of the Health Law will greatly depend the sanitary condition of towns. Blanks are issued for the purpose of notification, and will be furnished on application.

Superintendents of Health should furnish, as soon as practicable, a complete list of the members of the Board of Health in their County. This only includes those who are actually present at the meeting of organization, or who connect themselves with the Board afterwards. To such members will be sent all the printed matter issued by the State Board, and their assistance and coöperation is earnestly desired.

#### PERMITS FOR BURIAL.

It will promote the accuracy of mortuary statistics if the County Boards of Health will use their influence to have a rule made by the city corporations and cemetery associations forbidding the burial of any person until a certificate is given by the last attending physician of the cause of death. This plan is largely adopted already, and is not considered burdensome by any.

Letters of enquiry upon any matters connected with the work of the State Board will be promptly answered; and suggestions looking to the advancement of the interests of the North Carolina Board respectfully solicited.

Will not North Carolina doctors show themselves equal to the task of aiding the Superintendents of Health when it costs them so little trouble?

Our work should not languish because of the indisposition of the uninformed men now and then unfortunately connected with it.

These men must stand aside. The progress of our civilization demands work, and these laggards and obstructionists will be left entirely out of the race as the work develops into its full proportions.

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### LET IT REST !

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We notice that S. Cabot in the *Boston Medical and Surgical Journal* says, that he (or she) has not seen it mentioned that the Medical Societies of North Carolina and Rhode Island showed any indication of their scientific decadence by admitting women to membership.

We will not speak for Rhode Island, but we will say for North Carolina that one experiment is enough. There are no women doctors hung on to the State Society now, and one more move would be a serious disaster to all concerned. The action of our State Society need not be quoted as an example to be followed, for the heart burnings and bad feelings engendered by it will, perhaps, not subside in this generation.

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*Convenient and Reliable Medicinal Agents.*—Messrs. Wyeth & Bro., of Philadelphia, prepare compressed tablets of several medicinal agents, among which bicarbonate of potash and soda, Dover's powder and peptonic tablets are the most noticeable. In a case of cancer of the stomach, in which these preparations were used, great comfort has been obtained. When chemists succeed this well in making preparations to suit the necessities of medical practice, they should—and we believe they do—receive the hearty patronage of the consumers.

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*Unpaid Letters for the Board of Health.*—The Secretary of the State Board of Health earnestly requests that the postage on the monthly reports of Superintendents be paid in full at the mailing office. Have your letters weighed carefully and it will save the Secretary a considerable expense.

## REVIEWS AND BOOK NOTICES.

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DISEASES OF WOMEN. By LAWSON TAIT, F. R. C. S., Surgeon to Birmingham Hospital for Women, &c., &c. Second Edition. Thoroughly revised and enlarged. Specially prepared for "Wood's Library." New York: Wm. Wood & Co., 27 Great Jones St. 1879. Pp. 192. 8vo.

The publishers do not seem to have shown the same sagacity in the selection of this work as an exponent of the present state of gynæcological science for their "Library," as heretofore, in their selections in the other branches of medicine.

Many years ago when there were no such rival works in the field as those of Thomas and Emmett in this country, and Barnes and Graily Hewett in England, the present volume would have been esteemed more highly than now. It belongs rather to that class of treatises on diseases of women, of which the illustrious Dr. Charles West has given us such a classical example; it takes the medical rather than the surgical field in gynæcology, but the surgery of many important matters is not neglected.

The manner of the author is not that of a teacher writing for the guidance of students in their elements, but rather that of a specialist, who having become ripe in experience, brings his wealth of opinion together in a book for the benefit of gynæcologists.

His words of advice on the examination of females upon whom it is asserted a rape has been committed are well worth heeding. "No question," he says, "which can come before a medical practitioner can present greater difficulty and delicacy than to decide upon the appearance in a case of alleged rape; for on the one hand he has to assist in the punishment of an odious crime, and protect that all mankind holds dearest; while on the other he has to guard against the mistaken or evilly disposed efforts to convict an innocent man. No charge can be made more easily than one by rape, and none is more difficult to disprove, and the statement of eminent jurists must always be borne in mind that in the assize courts there are probably twelve false charges for one that is genuine. This may look like an exaggeration, but I am by no means clear that it really is." (Pages 27 and 28.)

Some personal narratives are given of gross and criminal charges

made without foundation,—descriptions which are very vivid and will doubtless convince the reader of the necessity of painstaking and thoughtful examinations on their part.

The discussion of dermoid and dentigerous cysts (pp. 142-44) will prove highly interesting to the reader. The conclusion of the author is, that dermoid cysts are the "result of hypererchetic development of an ovum in fœtal or infantile life, growing into a tumor during and subsequently to puberty. They are always invested by the peritoneal covering of the ovary, beneath which is a more or less thick layer of the nucleated and banded fibrous tissue, which forms the basis of all ovarian cysts. I have seen this layer as thin as tissue paper, and in one old-standing dermoid cyst it was more than an inch thick and occupied by large plates of calcification. In it are to be found the same fusiform nuclei which characterizes the stroma of the ovary, only they are more sparsely distributed.

"Within this layer the peculiar structures met with in dermoid cysts occur, an arrangement strongly indicative of the method of origin which I have suggested for them."

Mr. Tait seems to belong to the reactionary party on the question of antiseptics. He thinks that the successes in ovariectomy are due not to antiseptics, but to increased experience and to a better sanitary arrangement of his patients.

"To perform ovariectomy antiseptically is, at least four hours work, including the time required for preparation. \* \* \* There is equally no doubt that certain details of the system, the antiseptic spray especially, are a great hindrance to the operation; and I have more than once seen an ardent antisepticist push away the spray impatiently in order that he might secure a bleeding point. The first ovariectomy I saw performed antiseptically ended very disastrously, for the spray seemed to prevent the operator recognizing the peritoneum from the transversalis fascia, and he made a very expansive separation of the two before he found out his mistake."

Mr. Tait considers chloroform "quite inadmissible" in ovariectomy, "on account of the frequent and very persistent vomiting, which follows its use."

Few American physicians would prefer this work to Thomas' and Emmett's, but it should be esteemed as a valuable addition to his library.



SANITARY ENGINEERING. By WM. CAIN, C. E. Pp. 29.

This pamphlet is one of the series now being issued by the North Carolina Board of Health, for the information of the people. Mr. Cain is the Civil Engineer of the Board, by appointment of the Governor, and has devoted much study to the science of engineering. This pamphlet is not intended to be a treatise on the whole subject of sanitary engineering as its title might imply, but it is a plain and instructive tract on the needs of communities in regard to sanitary measures, with concise and explicit directions as to the remedies to be applied.

The dry-earth privy system as set forth in this pamphlet should attract the attention of the officers of every municipal corporation particularly, and the public in general. The utter neglect of any system, and the vile and disgusting way the great majority of privies in our towns and villages are allowed to remain, is a sure sign that our boasted civilization has not reached its acme. There is hardly a town on the Southern Atlantic coast, where the night air is not loaded in the summer and fall months with the noisome effluvia of stinking privies. The dry-earth system is a remedy for this evil, and should be generally adopted. The people should not wait for corporation officers to get it through their slow brains, but each citizen should commence for the reform for himself, for poverty could hardly be an obstacle to this improvement, as the whole cost would be exceedingly small. The one obstacle in the way is the prompt removal of the filled pails or boxes, but this need not long be an obstacle, for in those towns where they have been largely used, farmers have competed for the privilege of taking them away and returning them at their own cost, for the fertilizing material gained.

Once initiated the dry-earth system will take firm hold upon those communities having no general water supply or sewerage system. The way to make this reform general is for its adoption by a citizen here and there, and soon its superiority would be so apparent, that others would follow, and eventually a healthy public opinion would be created. An examination of this pamphlet will show how the change can be made at a small expense, and every head of a family in the State should read it.

Mr. Cain does not attempt to include all matters of household sanitation in this pamphlet, but we would like to call his attention

and that of the public to a cheap means of disposing of slop-water. We first saw it mentioned in the *American Agriculturist*, that great household monthly, and have seen it adopted in one instance with striking advantage.

The following is the plan : A wash sink in the house and kitchen are made with a strainer to keep back such coarse things as would close the pipes. A pipe leads the water to larger earthen pipes, which are buried in the ground from two to three feet, and fitted together with loose joints, and open ends of exit. It is best to select a spot of ground needing irrigation, in which to locate the pipes, accomplishing by this means the disposal of water which if allowed to stand would be exceedingly noisome, but which adds greatly to the fertility of the soil when employed this way. In the case we refer to above, the adoption of this plan settled the perplexing question of what to do with slop water, and converted a sandy sterile spot where coarse grass grew only with difficulty, to be the most ornamental spot about the premises.

We commend the effort the North Carolina Board of Health is making towards the circulation of sound sanitary teaching, and trust this work will not escape the eye of the public thinkers.

#### A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM.

By M. ROSENTHAL. Translated from the author's revised and enlarged edition, by L. Putzel, M. D. Pp. 285. Vol. II. New York : Wm. Wood & Co.

The appearance of the second volume of this work confirms us in the favorable opinion we formed of the first.

The subjects treated in this volume enhance greatly the value of the work. Among them may be mentioned Progressive Muscular Atrophy, Neuroses of the Spinal Chord, Hysteria, Catalepsy, Epilepsy, Eclampsia (Acute Epilepsy), Tetanus, Hydrophobia, Paralysis Agitans, Chorea in its Different Forms, Writer's Cramp, Stuttering, &c., &c., comprising by far the chapters which will be consulted most frequently by the general practitioner.

Turning to the chapter of hydrophobia, we do not see that the author has shed any new light on the subject. The mention of Offenbergs successful case, in which he injected 0.02 (one third gr.) of curare, seven doses within 5½ hours, causing complete disappear-

ance of the spasms and of hydrophobic and photophobic symptoms would be quite reëssuring, but for the more recent unsuccessful trial made by Dr. T. B. Cartiss, of Boston, with the same drug in largely increased doses.

The treatment of tetanus, amounts to a rehearsal of the various remedies which have had their day, forming a most gloomy picture of failure or of success too doubtful to be attributed to the remedies. We cite these chapters merely to show that there has been no advance made as far as the treatment of these diseases is concerned.

One note we quote on hypodermic medication of neuralgia for its practical utility, and for future reference.

If we desire to combine morphine and quinine for hypodermic use, we must employ aqueous solutions of the hydrochlorate of morphine and bisulphate of quinine. I have shown (*Med. Presse*, ——— 22, 1867) that a mixture of concentrated solutions of acetate of morphia and bisulphate of quinine will give rise to cheesy precipitate of the insoluble neutral sulphate of quinia, with the formation of the sulphate of morphia and hydrated acetic acid according to the law of double substitutions. The severe accidents which Nussbaum has observed upon himself from the use of these injections (intense pruritus over the entire body, redness of the face, tinnitus aurium, flashes of light, pulse of one hundred and fifty and one hundred and seventy) are exceedingly rare occurrences. Page 185.

The publishers could not have done better than in selecting Dr. Rosenthal's Work for their Library of Standard Medical Authors, and physicians should esteem the facilities afforded them for adding to their collection so many good books at such a small price.

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A GUIDE TO SURGICAL DIAGNOSIS. By CHRISTOPHER HEATH, F. R. C. S. Pp. 214. 8vo. Lindsay & Blakiston, 25 South 6th Street. Philadelphia, Pa.: Price \$1.50.

This seems to be the golden age for medical students. Everywhere we turn we have learning made easy, but in such a copious flood of volumes as to bewilder the unsagacious.

This volume is destined to enable the student to bring his mind to bear promptly and efficiently upon the patient before him, by affording him careful directions as *What to observe*. The first ten

pages are devoted to case-taking, the author calling attention to the fact that the habit of case-taking must be adopted early in life if it is to become easy and serviceable.

The anatomical order is observed in describing the diagnostic symptoms.

The use of marginal paragraph captions makes the volume easy to consult.

Frequently we see a paragraph that condenses valuable instruction in a few sentences, and just the sort of instruction too that a student or practitioner might find of practical use, as in this paragraph on diagnosis of disease of the testicle.

(1.) "If the body alone is enlarged, the epididymis and cord being healthy, the disease is probably *syphilitic*, and attention should be directed to other symptoms of constitutional syphilis. (2.) If the body of the testis is fairly healthy, but the epididymis enlarged and nodulated, with some thickening of the adjacent vas deferens, the disease is probably *tubercular*. (3.) If the vas deferens is thickened throughout its length, the epididymis enlarged and hard, and the body of the testis thickened, the case is probably one of *chronic inflammation* following acute orchitis, or dependent upon urethral irritation."

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STUDENTS' POCKET LEXICON; Giving the Correct Pronunciation and Definition of all words and terms in use in Medicine and the Collateral Sciences, the pronunciation being plainly represented in the American Phonetic Alphabet. With an Appendix. By ELIAS LONGLEY. Philadelphia: Lindsay & Blakiston, 25 S. 6th Street. Price \$1.00.

Every author seems to be writing for the benefit of the student (i. e. the undergraduate, for all doctors are students or they ought not to be doctors,) digesting his mental food for him so that he has only the trouble of assimilation.

After mastering the American Phonetic Alphabet the way to understanding the author's pronunciation is clear. The little volume contains about 8,000 words and definitions, and will be a great help to those students who have not been favored with a liberal education, a class which the author estimates to be very large. While this lexicon does not take the place of Dunglison and Thomas, it promises to be a great favorite.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE A. FOX., M. D. Parts 3 and 4. New York: E. B. Treat & Co., No. 805 Broadway, N. Y. In 12 parts, at \$2.00 each.

As this work progresses, the teaching value of Dr. Fox's method in skin diseases by photographic illustrations, places it in a position unequalled by any other.

Part 3 gives four photographs of nearly equal value. They illustrate Fibroma, Varicella, Zoster Pectoralis and Lumbalis, and Eczema universale. The latter is more especially fine and truthful.

Part 4 illustrates Leucoderma, Chromophytosis, Favus Capitis and Corporis, and Eczema Cruris.

The nomenclature adopted by Dr. Fox is not generally in use, but strikes us as being good. For instance he writes of *Zosters pectoralis*, instead of *Herpes zoster*, &c. "It is advisable" he says, "to class zoster as an affection *sui generis*. The characteristics which serve to distinguish Zoster from Herpes may be concisely stated as follows: Zoster is almost invariably unilateral, and rarely occurs more than once in a lifetime. \* \* \* Herpes is usually bilateral if at all extensive, and may be tolerably symmetrical. It occurs many times in the same patient. There is no tendency to distribution along the course of a single nerve for any distance. The pain is not of a neuralgic character.

Many works are more highly pictorial, but none, not even excepting Hebra are as exact copies of the diseases they intend to illustrate.

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MEMORIAL ORATION in honor of EPHRAIM McDOWELL "The Father of Ovariectomy." By SAMUEL D. GROSS, M. D., LL. D., D. C. L., Oxon. Delivered at Danville, Ky., at the dedication of the monument erected to the memory of Dr. Ephraim McDowell by the Kentucky State Medical Society, May 14th, 1879. Published by the Society. Louisville, Ky. Printed by John P. Morton & Co., 1879. Pp. 77.

This is a handsome memorial volume, issued by the Kentucky State Medical Society to commemorate the achievements of "The Father of Ovariectomy." The Society did not stint the money, and the publishers have succeeded most admirably in their part of work. The engraving of Dr. McDowell, which is the frontispiece is very

valuable, and the whole volume will be prized by American medical men as a just tribute of respect.

This is no place to comment on the quality of the addresses, but we have seldom read as graceful a speech as that by Dr. Cowling.

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DR. M. J. DEROSSET.—Our associate has removed his residence from New York to San Antonio, Texas. He carries with him the good wishes of a large number of friends, many of whom will sadly miss the advantages of their intercourse with him. It may not be unbecoming even in the JOURNAL of which he is one of the Editors, to say that Dr. DeRosset's accomplishments as a scholarly physician, are seldom equalled. His versatile power surprises those who are privileged with a close acquaintance. He cannot fail in his new home to gain the entire confidence of the community.

We regret that he thought it to be to his interest to leave New York where he had been favored by the high consideration and esteem of those "big-wigs" who seldom fail to recognize true talents, we only wish for him as true friends as those he has left behind him.

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*Do your own Crystallizing.*—The *Atlanta Medical and Surgical Journal* has tastes running parallel with this Journal, in many things, especially in its selections; therefore we cannot question the taste of the editor. We would suggest though that after a little practice that that Journal could crystalize for itself, surely it could if the same fuel we employ was used under the editor's evaporating dish—viz. : Wood.

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DR. E. S. GAILLIARD has removed his valuable journals to New York city. There is no city in the world where true worth is earlier recognized than in New York, and we, therefore, feel assured that he has made a good move. We trust that there will be no break in its former brilliant and successful career as a journalist.

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*Back Numbers Wanted.*—Fifty cents a number will be paid for three numbers of the JOURNAL for January, 1878.

## FORMULARY.

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*Walker's California Vegetable Vinegar Bitters.*—Each bottle contains from nineteen to twenty fluid ounces, consisting of a decoction of aloes and a little gum guaiac, anise seed and sassafras bark, in water slightly acidulated with acetic acid, possibly the result of secondary fermentation, or added in the form of sour cider. Each bottle contains also about one ounce of Glanber's salt, one-quarter of an ounce of gum arabic, and from one-half to one ounce of alcohol.—(Eberbach, Hoffman, Nichols.)

*Brandreth's Pills.*—Each box contains twenty-four or twenty-five pills, weighing about two and one-half grains. The twenty-four pills consist of ten grains of podophyllum root, ten grains of extract of the same, thirty grains of the extract of poke berries, ten grains of powdered cloves, from two to five grains of gamboge, traces of Spanish saffron, and a few drops of oil of peppermint.—(Hager.)

*Radway's Ready Relief.*—This is a light brown liquid, consisting of eight parts of soap liniment, one part of the tincture of capsicum, and one part of aqua ammonia.—(Hager, Heckholt, Hoffmann.)

*Radway's Renovating Resolvent.*—Each bottle contains about six fluid ounces of a vinous tincture of cardamon and ginger sweetened with sugar.—(Hager.)

*Pierce's Golden Medical Discovery.*—Each bottle contains one drachm of the extract of lettuce, one ounce of honey, one-half drachm of the tincture of opium, three ounces of dilute alcohol, and three ounces of water.—(Hager.)

*Pierce's Favorite Prescription.*—A greenish-brown turbid liquid, consisting of a solution of one-half ounce of sugar, one-drachm of gum arabic, in eight ounces of a decoction made from two drachms of white agaric, one and one-quarter drachms of cinnamon, and two drachms of cinchona bark; to this mixture are added one-half drachm of tincture of opium, one-half drachm of tincture of digitalis, and a solution of eight drops of oil of anise in one and one-half ounces of alcohol.—(Hager.)

*Van Buskirk's Fragrant Sozodont.*—A red liquid consisting of a solution of one-half drachm of white castile soap in one ounce of water, and one-quarter of an ounce of glycerine, colored with

cochineal, and flavored with oils of winter-green, cloves and peppermint. The powder which accompanies each bottle consists of a mixture of precipitated chalk, powdered orris root and carbonate of magnesia.—(Wittstein, Hoffman.)

The above are taken from Hoffman's "Popular Health Almanac," a publication which is meant to serve as an antidote to the numerous almanacs distributed broadcast through the country as a means of advertising various patent nostrums.

#### AYER'S CHERRY PECTORAL.

R

Morph. acetas gr. iij.  
Tr. sanguin. canad. 3 ij.  
Vini antim. et potas. tart  
Vini ipecac aa 3 iij.  
Syr. pruni Virgin 3 iij.

M.

—Hospital Gazette.

### THE POISON OF MALARIAL FEVER.

The knowledge of the last cause of human disease has been put a good step forward by the discovery of the poison said to produce swamp or malarial fever. On the first of June, this year, the Professor of Pathological Anatomy in Rome, Tommasi, presented before the Academy of Science, the results of some researches which he had instituted in connection with Professor Klebs, of Prag.

Both the researchers lived for some weeks during the spring of this year, in Agro Romano, the modern classical land of swamp fever, where they investigated into the constituents of the lower stratum of the air and of the stagnated water, in both of which was discovered microscopical *fungus*, consisting of innumerable brightly moving spores of a long oval form, measuring a diameter of 0.9 mikrometer.

This *fungus* was artificially bred in different kinds of fertile soils, and the so-prepared wet mass filtered and after having been repeatedly washed, and the undissolved portion remaining on the



filter was put under the skin of a healthy dog. With this animal originated thereby fever of a regular typical form with free intermissions, which lasted for 60 hours, accompanied by increased heat of the body until it had reached a point at 42°, (ordinary temperature from 38° to 39°.) The filtrate was also injected under a dog's skin, but with it there was observed only a slight change, in the temperature of the body which exhibited no signs of an intermittent character. The one with the artificially produced intermittent fever showed quite the same acute swelling of the spleen as that of any human being, and the same characteristic *fungus* was observed in large quantities in the spleen and other lymphatic glands. Tommasi and Klebs gave them the name of "*Bacillus-Malariae*."

For the exact scientific information the reader is referred to the Journal edited by Professor Klebs. From the exactness of which these two gentlemen carried out these experiments there is not a shadow of a doubt about their results.

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## OBITUARY.

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WILLIAM W. DAVIS, M. D.

Dr. Wm. W. Davis died in this city on the 22d day of October, 1879, aged 65 years. He had long suffered with Jacob's ulcer, to which he finally succumbed.

Dr. Davis had accomplished many years of successful professional life, devoting himself with unusual intensity to therapeutics when it was not fashionable with the profession to reach out beyond the orthodox limits, for a curative agent. The introduction of the eclectic resinoids into general practice in this section was largely due to him.

Dr. Davis was especially skilled in the diagnosis and treatment of the inferior animals, and the greater part of his study of late years was devoted to this neglected branch of medicine.

He was at the time of his death the senior practitioner in this city, and is much missed by a select clientele, to whom, by his failing health, he had been obliged to limit his practice.

He was a graduate of the University of Pennsylvania.

## BOOKS AND PAMPHLETS RECEIVED.

Morbid Fears as a Symptom of Nervous Disease. By George M. Beard, A. M., M. D. Pp. 10.

Sanitary Engineering. By Wm. Cain, C. E. Member of the North Carolina Board of Health.

The Mulum in Parvo Reference and Do e Book. By C. Henri Leonard, M. D., &c. Detroit. 1879.

Neurasthenia (Nerve Exhaustion) with Remarks on Treatment. By George M. Beard, A. M., M. D. Pp. 20.

Anæsthetic Inhalation. Rival Claimants to the Discovery. By Wm. J. Morton, M. D. Reprint from the New York Times.

Winter and its Dangers. By Hamilton Osgood, M. D. American Health Primer Series. 1879. Philadelphia. Lindsay & Blakiston.

The Treatment of Fracture of the Lower End of the Radius. By R. J. Levis, M. D. Reprint from Transactions of the Medical Society of Pennsylvania. 1879.

Remarks on Ovariectomy with Relation of Cases and Peculiarities of Treatment. By Nathan Bozeman, M. D. New York. Reprint from Medical Record. Pp. 60.

Sanitary Problems of Chicago, Past and Present. By J. H. Rauch, M. D., Chicago. Reprint from Transaction American Public Health Association. 1879.

Neurotomy a Substitute for Enucleation. A New Operation in Ophthalmic Surgery. By Julian J. Chisholm, M. D. Reprint from Virginia Medical Monthly, 1879.

Physician's Visiting List for 1880. Twenty-ninth year of its publication. Philadelphia. Lindsay & Blakiston. This visiting list has held its own for all these years, and is still the favorite with a large number of physicians. Price \$1.00 to \$1.50.

Presidential Address. Before the American Medical Association at its Thirtieth Annual Session, Atlanta, Ga., May 6th, 1879. By Theophilus Parvin, M. D. Extracted from the Transactions of the American Medical Association. Collins. Philadelphia. 1879. Pp. 33.

Investigations on Rainfall, Percolation and Evaporation of Water from the Soil. Temperature of Soil and Air, Disposition of Dew on the Soil and Plant, at the Massachusetts Agricultural College Experiment, Amherst, Mass. By Professor Levi Stockbridge. Boston. Rand, Avery & Co. 1879. Pp. 38.

The Physician's Pocket Day Book. By C. Henri Leonard M. A., M. D. Accommodates daily charges for twenty, or forty, families weekly, has complete obstetrical record for ninety-four cases, and monthly memoranda for debtor and creditor cash account. Price \$1.00 ; your name on the side in gold leaf, \$1.25 ; your name, town and State, \$1.50. Detroit, 1878. We have been using Leonard's Day Book for a long time and we think it is the very best we have seen.

# NORTH CAROLINA MEDICAL JOURNAL.

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**M. J. DeROSSET, M. D.,** } Editors.  
**THOMAS F. WOOD, M. D.,** }

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Number 6.      Wilmington, December, 1879.      Vol. 4.

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## ORIGINAL COMMUNICATIONS.

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### VIBURNUM PRUNIFOLIUM IN ABORTION AND MIS- CARRIAGE.

By JAMES B. HUGHES, M. D., Newberne, N. C.

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It is estimated that of every hundred mothers of the average age of thirty years, thirty-seven of them have aborted one or more times; and probably a large proportion also have been threatened with this accident, who have escaped its actual accomplishment. When such an event is impending, if we could always ascertain satisfactorily that the ovum is so far detached from the uterine walls as to lead to its death from want of proper circulation, or that it is already blighted, the plan would be to encourage its expulsion. But this vexed question is difficult of solution, and as a rule of practice, we endeavor to save the fœtus, unless it is engaged in the os uteri, and its movements previously existing, have for several days ceased to be felt, and the fœtal heart can no longer be heard. The hemorrhage is the most alarming symptom, and is more dangerous from its quantity, than from the length of time which it

continues. But the amount and duration of hemorrhage which will destroy the fœtus vary largely in different cases : the dilatation of the os, and its softened or rigid condition offer the same discrepancies : so also with the degree of mental disturbance or grade of fever. The hemorrhage is most frequent in the earlier months, as far as the third or fourth month, and the generally accepted explanation of this is, that it is due to the structure of the placenta, "the decidua being thick and largely developed, and the lobes of the placenta being held together by plastic matter ; while, in the the latter months, the lobes of the placenta spread themselves out over the uterine surface, and when contraction of the walls occurs, it merely compresses the lobes nearer together, without detaching the placenta or breaking up its vascular connections." The recital of a few cases, in which viburnum prunifolium has been used to avert abortion and miscarriage, may tend to strengthen the growing confidence of the profession in its value of this drug.

Mrs. ———, aged 21 years ; married eight months. Had been in good health, but was now enfeebled by the continued nausea and vomiting of pregnancy. Was called to see her July 13th. She was in the twelfth week of pregnancy ; had awakened in the morning with slight hemorrhage, which increased as the day advanced, with pains in the back, hypogastrium, and down the limbs. Used cold astringent applications to the vulva and gave one grain doses of opium and acetate of lead every hour. After three doses, there being no change for the better, she took teaspoonful doses of fl. ext. viburnum, every one or two hours, which soon checked pains and hemorrhage. Slight returns occurred at long intervals, until the 18th when they disappeared.

On the 23d, hemorrhage of great quantity reappeared, requiring tampon, and repetition of viburnum. Upon removal of tampon, one day later, a fibrinous mass, the size of half a walnut was found in the mouth of the uterus, which proved to be a clot of blood. All of the discharges were carefully examined, and as the fœtus at the 12th week would be five or six inches long and weigh about one quarter of a pound, there was no possibility of error in detecting if it had escaped. She soon regained her strength and rode 35 miles to visit some relations. The month of August passed without any symptoms of trouble, but in September it was reported to me, that

she menstruated, the breasts had shrunk, and abdomen diminished in size; and the case will probably terminate sooner or later in the discharge of a mole.

Mrs. — aged 21 years; married 18 months. Had aborted twice at 8th and 9th weeks. August 13th, is again in the 9th week of pregnancy, and symptoms of abortion setting in, she was relieved by three or four doses of viburnum. In the 12th week, same symptoms relieved in same way. In 16th week, the time corresponding with fourth menstrual epoch, she was advised to take the medicine in anticipation of possible trouble, and it passed over without any return. She is now in the 22d week and doing well.

Mrs. —, aged 30 years; fifth pregnancy. August 8th, in 12th week of pregnancy; had copious hemorrhage with strong, regular pains. Applied tampon, and gave teaspoonful doses of fl. ext. viburnum. Symptoms subsided, and the soft, pulpy os, which was dilated to the size of a silver shilling, contracted firmly. Four days after, hemorrhage and pains returned and yielded to same treatment. Signs of life in foetus appeared in due order of time, and the case promises to go to full term.

Mrs. —, aged 32 years; sixth pregnancy. Has never before carried a child to full term, and only once as far as the end of eighth month. On March 18th, in the 20th week of pregnancy, symptoms of abortion developed. She had of her own responsibility taken four one grain opium pills and made anodyne applications, which failing to check the trouble, she was advised to take teaspoonful doses of fl. ext. viburnum which soon afforded the desired relief.

April 23d. A distressing gastric catarrh attacked her, by which she was tried severely. During its continuance of several weeks, the violent retching and vomiting frequently developed uterine pains and contraction, and on one occasion very considerable dilatation of the os. In each instance, she would resort to the viburnum, which always relieved her, and on July 20th she was delivered of a large healthy boy. The quantity of amniotic fluid discharged at delivery was very large, running from the bedside and had to be caught in a bucket. From beginning to end, this patient took about 4 oz. fl. ext. viburnum.

Mrs. —, aged 35 years; seven children at term and five abor-

tions. On July 14th, in ninth month of pregnancy, uterine pains set in about 10 o'clock in the morning and increased in force and frequency during the day, notwithstanding the repeated doses of opium and hop applications to the abdomen, which her previous experience had taught her to use under similar circumstances. Was called to see her at 8 P. M. She then thought the result inevitable and had made all arrangements for her delivery. The soft, pulpy os was dilated to the size of a silver half dollar, the foetal head within easy reach and the membranes engaged in the os. She was advised against her convictions, as she thought it useless to take the viburnum. One dose was given and repeated in one hour, the pains began to subside and a third dose checked them entirely. She completed her term without farther accident, only once again needing a single dose of the medicine, and on August 12th was delivered of a healthy girl. In this case also, the quantity of the fluid was above the average.

Mrs. —, aged 26 years; aborted in first pregnancy at three months in January, 1878. In the 20th week of pregnancy, in January, 1879, had symptoms of abortion, which yielded to opium, chloral and anodyne applications. Subsequently, she suffered greatly with gastric catarrh and on March 22d, when called again to see her, she had been in regular pain for six hours, and as in preceding case, was so confident that she would miscarry, that she had made preparations for that result. The os was not quite so largely dilated, but otherwise the same as in preceding case. It yielded to four doses of viburnum, and she had only occasionally to resort to the remedy during the remaining time, until May 2d, when she was happily delivered. The fluid in this case was normal in quantity, but she had adherent placenta.

Mrs. —, aged 20 years. In last month of first pregnancy, living 12 miles in the country. I was requested to prescribe for her on October 18th. She had not slept for 36 hours; had had a slight convulsion at noon, and another at midnight before the medicine reached her, and another two hours later. She was given 20 grs. doses of bromide potash and 10 gr. doses of chloral. Saw her at noon of the next day. She was conscious, but had agonizing pain in the head, and as yet, no sleep. Bled her freely, which relieved the pain of head, and also the uterine contractions, which had

existed for several hours. Repeated bromide and chloral doses, which failed to produce sleep, and at 4 P. M., uterine pains again set in. There was but little dilatation of the os, and she was given four doses of viburnum at one hour's intervals, which checked the contractions and she soon fell asleep. During the remaining thirteen days of her pregnancy, she took two ozs. fl. ext. viburnum, and on November 1st completed her term, and was delivered without accident or complication.

Viburnum belongs to the neurotic class of medicines, which Headland defines as, "passing from the blood to the nerves or nerve centres, and acting by contact with the nerve; and are general or special in their effect." It is suggested as a possible cause of this different effect, that there "may be a chemical or mechanical difference in the structure of the nerves." Dr. Pareira thinks that, "they act as ganglionics, and affect that part of the system, supplied by the sympathetic nerve." Ergot is the opposite to viburnum in its influence on the special nerves of the uterus; the former acting as a stimulant, the latter as a sedative. The action of the uterus under chloroform shows that it is controlled by both reflex and ganglionic nerves, and that it is only the operation of the former, which is suspended whilst that of the latter goes on uninterruptedly, and labor proceeds as regularly as though the process depended exclusively on the ganglionic nerves. It is on the ganglionic nerves of the uterus that viburnum appears to act, for it impresses and promptly suspends the contractions. Its action also seems special, for its effect on the general nervous system is slight, and only noticeable in the more quiet and composed manner of the patient, which may be its indirect result by suspending uterine pain and contraction.

So also in its influence on hemorrhage which may be relieved by checking the contraction, and thereby preventing farther detachment of the placenta. Respiration and digestion are not appreciably influenced by it, and I observed but one instance, in which the circulation was affected; after the fifth dose the pulse fell from 90 to 60 beats. The medicine may be extended in its application to the congested and neuralgic forms of dysmenorrhœa, and in my hands has proved an admirable remedy.

There are, doubtless, other conditions, to which a more enlarged

experience will prove its adaptability, and its usefulness may become as varied and valuable as is ergot, which at no very remote date, was viewed only as an oxytocic, and now has a range of application as wide as almost any remedy of ordinary use.

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### TUBERCULOUS\* DEGENERATION OF THE OMENTUM, WITH PERITONITIS AND DISEASE OF THE UTERUS AND ITS APPENDAGES.

By F. PEYRE PORCHER, M. D., in charge City Hospital, Charleston, S. C.

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S. R., æt. 49, had been for several months an inmate of the hospital. The peritoneal tenderness was so great that it was impossible to make a thorough examination; but as there was great tenderness in the left hypochondriac space, with induration and thickening of the neck and fundus of the uterus revealed by a vaginal examination, the supposition was that it was a case of ovarian tumor. Mild alteratives, consisting of Dr. Louis' method of using mercury, 1-12th of a grain with 1-3d of opium coupled with supportive treatment, were administered, and to promote resolution and absorption, plasters of mercurial and iodine ointment were applied to the abdomen. She died June 15th.

*Autopsy.*—There existed peritoneal ulceration and adhesion, with deposits of plastic lymph and tubercular deposits in the coats of the intestines. The appearance presented by the great omentum was extraordinary and most instructive. It formed an extensive tumor an inch in thickness and adherent to the inner walls of the abdominal muscles; and gave rise to the dulness on percussion which had been repeatedly observed before death. It consisted of a yellowish, somewhat fibrous, fatty looking substance and tuberculous in appearance, and was very instructive as a pathological specimen, in as much as we are taught by its examination not to ascribe all induration met with in this region of the body to an ovarian origin; and

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\*I have used the word "tuberculous" and "tubercular" as equally proper:



also give an example of the extensive deposition of tubercular matter. The uterus, however, was found enlarged, hard and ulcerated, the fallopian tubes hard and firm, the ovaries diseased, but little enlarged and with small abscesses filled with pus. Adhesive inflammation had existed very generally, for the liver was glued to the diaphragm and to the neighboring structures and the spleen closely adherent to the stomach. The kidneys were enormously engorged. There were also tubercular depositions in the lungs with engorgement almost amounting to hepatization—with a large quantity of fluid in the pericardium; pharynx and larynx healthy; brain normal.

The next case which I will also briefly relate afforded another illustration of tubercular deposition occurring in various parts of the body which give rise to dull sounds on percussion and which might mislead in the formation of our diagnosis.

*Tubercular Growth in the Cavity of the Abdomen.*—M. W., a female, æt. 35, after a brief stay in the hospital, where she was treated with cod liver oil and revulsives, with nourishment, died June 8th. The entire left lung which was gristly to the touch, was filled with miliary tubercles and yielded a serous effusion; cavities existed in the apices of both lungs. Two quarts of a pale colored fluid was found in the cavity of the abdomen, which, as is almost always the case with such effusions, coagulated under the application of heat and nitric acid. Two large tubercular masses, as in the case just related of S. R., presented a hard, yellowish appearance. They were seated over the psoæ muscles just under the crest of the ilium on each side. They were five to six inches long and two to three wide, lobulated in structure, resembled organized deposits and would have given dullness on percussion.

I have been taught by these practical observations in pathology, to look with more readiness for the manifestation of the tubercular diathesis in every portion of the system; but more particularly within the cavity of the abdomen and *external* to the intestines.

I make the following extracts from my Hospital Case Book:

FALL FROM A HEIGHT OF SEVENTY FEET—RECOVERY.

J. D., seaman, aged 23, admitted April 19th., fell from the mast head at the height of 70 feet, upon the deck. In falling he struck a beam which caused a slight abrasion of the skin over the "gluteal"

region. There was a slight bruise on the shoulder and on the right foot, and a small contusion of the scalp—no bones were broken or dislocated—he cannot stand, and complains but little of pain. He walked a mile April 23d.

#### BLADDER OF FIVE MONTHS FÆTUS FILLED WITH FLUID.

Examination of urine from bladder of fœtus: pure, white, transparent—under heat no change—with nitric acid no effervescence, hence no ammoniaco-magnesian phosphates present; slightly clouded showing a mere trace of albumen; no bile or purpurine obtained by tests and reagents.

#### HEAD PRESENTATION ASCERTAINED ONE MONTH BEFORE DELIVERY, WITH DILATATION OF THE OS UTERI.

Mrs. J., received August 1st. By vaginal examination in supposed labor pains, the finger entered into os dilated one and a half inches, reached the membranes, and enabled me clearly to ascertain a head presentation. No farther advance was made in the labor by September 1st.

#### AUTOPSIES AT CITY HOSPITAL.

Among the pathological points of interest elicited at the several examinations made before the students in attendance (and post-mortem examinations were made in nearly every case of death at the hospital) there are two or three I think worth noting briefly.

*Typhoid Fever.*—The autopsies in four cases in which the treatment by acid was not used, a high degree of inflammation of the intestines, the glands of Peyer and Brunner not being enlarged or specially involved, was found to exist; with no other lesion to account for the emaciation, wasting and death. From 14 to 20 inches of the mucous membrane of the small intestines were inflamed and ulcerated in two cases. These occurred among feedmen, in whom there was very little or no fever, simply exhaustion, absence of appetite and inability to excite the vitality of the system by the means used, viz.: turpentine, ammonia, acetate of potash, stimulants, blistering and nourishment.

Many cases met with subsequently and presenting almost precisely the same train of symptoms, with the addition in three of them of delirium, recovered under the use of nitro-muriatic acid, as detailed in the note which follows:

*Nitro-Muriatic Acid in the Treatment or Prevention of Typhoid Fever.*—In some forty or fifty cases of typhoid fever occurring for the most part upon negroes exhausted by exposure and privation of every kind, I have found the use of nitro-muriatic acid (with brandy and nourishment) more effective as a prophylactic and for its curative effect than turpentine or any other agent—even when brandy has been given in conjunction with them. Long accustomed to the use of acids in adynamic fevers and in diseases of a low type accompanied with wasting discharges, I was more particularly induced to try the effects of the combination after reading the admirable paper detailing the treatment of cases of typhoid fever by Dr. DaCosta, of Philadelphia.

MISCARRIAGE AND DEATH RESULTING FROM INFLAMMATION AND SUPPURATION CAUSED BY THE PRESENCE OF MEDICINAL SUBSTANCES IMBEDDED IN THE WALLS OF THE APPENDIX VERMIFORMIS.

Mrs. B., entered the hospital July 27th, complaining of uterine pains, threatened abortion, and pain in the left hypochondriac space. It was supposed she had suffered from injury. The treatment, which was only palliative, to prevent the threatened miscarriage, consisted for the most part in enjoining rest and giving opiates. She was delivered of a five months fœtus within three days after her admission; and died very suddenly and unexpectedly in 14 hours afterwards.

Inflammation of the the omentum and intestines was found to exist, and a large quantity of purulent fluid in the abdominal cavity, with deposits of plastic lymph. The purulent fluid was found to proceed from an abscess existing in the walls of the appendix vermiformis at the point where she had complained of pain upon admission.

Five or six hardened pills (none of which were administered in this hospital) were found imbedded in the walls of the appendix, and the irritation caused by these seemed to furnish the only plausible explanation of the ulcerative inflammation which produced her death. There were no marks of injury external nor internal.

# IODIZED PHENOL—"BATTEY'S FORMULA"—IN ECZEMA MARGINATUM.

By W. J. H. BELLAMY, M. D., Wilmington, N. C.

R

Iodinii cryst,  $\bar{\text{5}}$  ss.

Ac. Carbolie cryst,  $\bar{\text{5}}$  j.

Mix and combine the two by gentle heat.

The above formula of the renowned Battey of Rome, Ga., provides a combination which has probably given more satisfaction to the gynæcologist in uterine therapeutics than any agent that has been suggested for many years past. It is not alone useful for such affections, as concerns the specialist alluded to, but as I am prepared by quite an extensive experience with its use to say it has given me more satisfaction in the management of those intractable forms of skin disease characterized by intolerable itching, than any of the much vaunted parasitocides so much in use by the dermatologists of the present day. Most particularly in that disease, the pathology of which is now well understood, viz. : eczema marginatum, and which, for such a long time has almost baffled the skill of the country practitioner, is this agent most useful. \* In most cases of "skin disease," when the diagnosis is not clear but where itching is the prominent symptom, and when it is reasonable to suppose the presence of some parasite, it is a most useful remedy. It allays itching, it relieves pain. The anæsthetic property of the carbolic acid prevents the agents from giving much more than momentary pain.

My rule has been at first to dilute it with glycerine equal parts, making the application twice in twenty-four hours, touching every point of irritation thoroughly by means of an ordinary camel's hair pencil, or glass rod (brush.) It may be used according to the sensibility and idiosyncrasy of each case, diluted, or of full strength. When used, as I have used it often, of full strength, it causes only an ex-foliation of the epidermis, no ulceration or destruction of any great amount of tissue in any case, and no pain or annoyance to the patient, the relief of the itching and presence of the distressing malady, producing so much satisfaction. It may be remarked that in sulphurous acid we have an agent as potent, but how long can

we keep sulphurous acid as such? How often can we get sulphurous acid when prescribed? Were we at the door of a "Squibbs" with each patient, and had we the laboratory and conveniences of the expert and proficient chemist and were qualified to make our own acid as we needed it, then probably we would need no addition to our therapeutics in the management of such skin diseases as these we are considering. In almost every case where I have resorted to the phenol prescription above, the patient has been a sufferer for many years, and has gone from one to the other of the profession.

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### THE MICROSCOPE IN THE WITNESS BOX.

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As the *New York Tribune* says, the scientific aspects of the evidence against the Rev. Mr. Hayden, of Madison, Conn., for the murder of Mary Stannard, are truly remarkable; indeed the microscopic exhibition of arsenic and the comparison of arsenical crystals show that the law has a powerful auxiliary in chemistry. After the arrest of Mr. Hayden, and the disinterment of the remains of the dead girl for examination, it was claimed that all of the arsenic which Hayden had bought was still in a box in the barn. There a box was found containing a full ounce. It was shown that the arsenic found in Mary Stannard's stomach could not have been taken from this box. At this point recourse by the prosecution was had to Prof. Dana, who visited England, studied the manufacture of arsenic, and then, by the use of his microscope on the crystals, demonstrated that the arsenic from the girl's stomach was an entirely different lot from that hidden in the barn, and that it was identical with the arsenic sold by Tyler, at the time when Hayden is known to have bought his ounce. The conclusion sought to be established is that part of the arsenic bought by Hayden was used to poison the girl, and that the rest was flung away, and that the barn arsenic was bought elsewhere afterward merely as a blind. The crystals of the stomach arsenic are three or four times as large as those of the barn arsenic, but none of them are large enough to be visible without the microscope. Hereafter criminals will do well to recognize in science one of the agents of possible detection.--*Scientific American*.

## SELECTED PAPERS.

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### NOTE ON ERGOT OF RYE (*SECALE CORNUTUM*), OR *CLAVICEPS PURPUREA* (TULASNE) CRYPTOPHYLA.

*Subclass, Fungi; Order, Ascomicetes; Family, Pyrenomyces.*

By CARL JUNGK, Ph. D., Detroit.

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This fungus which infects different species of the graminacea or grass tribe has three different stages of growth which are very excellently and minutely described in Hager's commentary to the *Pharmacopœia Germanica*.

The first stage of development consists in the formation of sphaceliæ, and takes place at the time of flowering. The sphacelia appears as a soft yellowish fungous mass, called rye honey-dew, somewhat tough and of a rather disagreeable odor.

This mass takes possession of the ovary or its immediate neighborhood, and products of the decomposition of the chemical components of the ovary furnish its substance, as we find the starch contained in the ovary disappear, and a subsequent breaking up or dissolution of the structure of the organ takes place.

On the sphaceliæ, when subjected to a magnifier, can be discovered numberless oval corpuscles called spermatie or stylo-spores. It may be inferred, therefore, that the sphacelia is secreted by the mycelium whose hyphen penetrates and honeycombs the lower portion of the young ovary. At the same time it may be noticed that the ovary undergoes a process of gradual obliteration or consumption by the parasite as it exhibits breaks in the continuity of its structure, having folds and depressions not seen in the healthy organ. This appearance is due to the spermagonium layer. Out of this cellular layer or tissue there rise a multitude of basidia like tubes on whose summit may be discovered a chain of longish, oval cells or corpuscles (the spermatie or stylo-spores already referred to).

Subsequent to the drying out of the sphaceliæ the mycelium and spermatie appear as a whitish fungous web covering the remains of the ovary.

The second stage of the parasite's growth is the formation of the sclerotum, which furnishes in a sterile stroma the officinal ergot.

The ovary is by this time entirely destroyed as far as its elementary and anatomical structure is concerned, and consequently its growth and nutrition have ceased.

In its structure, however, the mycelium continues its development, existing separately and without further contribution from the ovary or its mass, arriving by a process of growth and condensation of structure at a point where it presents to view a compact body white within and violet black without, a sterile stroma which arises out of the floral bracts and crowns the summit of the mycelium.

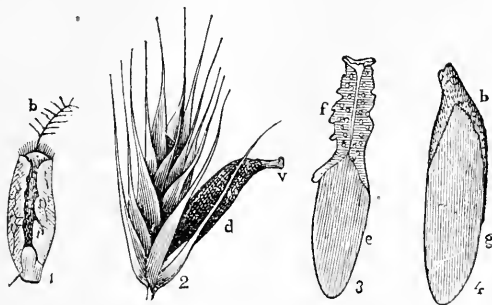
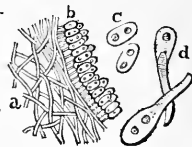
(a b) A section of a cutting through the spermatogonium layer.

(a) Hyphen.

(b) Hymenium with spermatie or stylo-spores.

(c) Spermatie.

(d) Spermatie and filament prolonged thereby.



1. Vertical section of fruit of rye pierced by a hyphen; a point of attachment of the sclerotium.

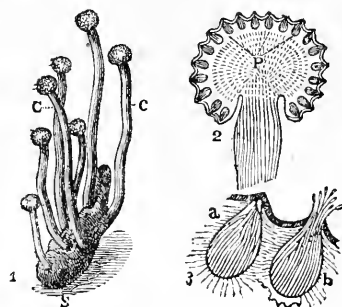
2. Ear of rye showing the sclerotium.

3. Sterile stroma or sclerotium bearing on its summit the spermatogonium or sphacelia layer.

4. The same at a more advanced stage of development. (g) Sclerotium. (h) Sphacelia.

The third stage of development the formation of the cordiceps has only a theoretical interest, consisting in the fungi in the growth of the pyrenomyces. This takes place either in autumn or spring whenever it arrives at a propitious point for development. After the lapse of a few weeks the violet downy covering of the stroma loosens off here and there in flakes which curl over, and in the

exposed places arise small whitish heads which assume at first a grayish yellow, then a dirty violet color, and are finally presented to view as thin shining stems, pale violet colored and carrying on their tops one, rarely two, warty buttons. These cordiceps buttons develop, in ripening, millions of spores.



CLAVICEPS PURPUREA IN THIRD STAGE OF DEVELOPMENT.

i. Sclerotium and spore capsules.

s. Sclerotium layer.

c. Fructified cordiceps layer.

ii. Vertical section of the head or button of cordiceps, showing the peritheciæ.

iii a. Two peritheciæ producing spore filament containing spores, and closed.

b. Opened and ejecting spores.

The officinal ergot is represented by the second stage of development, and should be gathered in dry weather several days before the harvest. The overripe ergot has but little value medicinally. If well dried at about 25° C., which equals 77° F., in the shade, and protected from the air, it can be preserved in closed vessels for a long time.

The attention of the medical profession seems to have been first attracted to the properties and efficiency of ergot during an epidemic of ergotism which prevailed in Hessa in the year 1596, and was attended with the loss of many lives. The cause assigned was the consumption of ergotted grain in bread. In 1688, Camerarius wrote of midwives in Germany that they were in the habit of using ergot to promote delivery. The Chinese are also said to have used it from time immemorial for the purpose of producing abortion.



A number of analyses of ergot have been made, and at one time its action has been ascribed to the fixed oil it contains ; at another, propylamin has received the credit ; again, the cecolin and ergotin have been thought to be the active agents, but so far the identity of the principles causing its special contractile effect is still in question. In order, therefore, to produce an active pharmaceutical preparation of ergot, we must endeavor to present therein, if possible, all the principles, with the exception of the fixed oil, which in a state of purity and free from extraneous matter, is without doubt inactive.

That a preparation of ergot, when warmed for some time with soda or potassa, contains propylamin is true, but there is no evidence that this body is contained ready formed in the ergot, as the contrary is the case, and it can only be regarded as a product of decomposition, not as an educt. Propylamin (trimethylamia) is the result of decomposition of a number of organic combinations, just as is ammonia, and cannot, therefore, be regarded as a constant or active ingredient of ergot.

In a good and properly prepared extract, or fluid extract of ergot I have never been able to discover at once a development of propylamin after addition of free alkali, it being only possible to detect it after the lapse of some time, or prolonged heating.

If however, an extract be prepared from ergot that has become old, or been imperfectly dried, the presence of propylamin may be detected during the process of manufacture.

As concerning the active constituents of ergot, the following facts have been demonstrated by different investigators :

1st. An aqueous extract of good ergot, *i. e.*, an infusion, contains all active parturient principles.

2d. An alcoholic extract has very little of the parturient properties, containing, however, principles exerting very deleterious and poisonous effects.

The exhibition of ergot in so many different diseased conditions has led to a diversity of opinion regarding its value and efficiency. with the exception of its application in metrorrhagia, and in case of its administration in poisoning by carbonic oxide its efficiency depends on the contractile effect exerted on the blood-vessels and consequent increase of blood pressure in the arteries, while the action of the heart remains normal, or is unaffected.

This diversity of opinion is due most likely to the difference in character and value of the preparations used.

In any case it is clear that an extract, fluid extract, or so-called ergotine, should be prepared with a consideration for the method of application and intentions of its use.

The presence of lactic acid in fresh ergot is not demonstrable, though it appears as a product of fermentation if the preparation be exposed to favorable conditions. A perfectly fresh aqueous infusion of good ergot is neutral; after the lapse of 5-10 minutes, already acid; in from 6-12 hours lactic acid may be detected, and in several days butyric acid makes its appearance. This fermentation does not exert a destructive action on ergotin, ecboLin or resin, but it does on the sugar and red coloring matter.

We may conclude from these premises that ergot contains in itself a principle capable of provoking the lactic acid fermentation, and we may look to this as an incentive to the readiness with which ergot itself and poorly prepared extracts undergo decomposition and change.

We may further conclude that the appearance of lactic acid and butyric acid, and also propylamin in ergot, or its preparations, is due to its decomposition already begun and in progress. If we consider that in composition the lactate of ammonia and trimethylamin differ only in amount of three atoms of oxygen ( $O=16$ ), we may readily infer the presence of either one or the other to be due to difference in mode of treatment (or maltreatment) and the stage of decomposition arrived at.

As a matter of interesting reference and possible value to the practitioner, I append below a number of approved formulæ which have been used by some of the best authorities in the administration of ergot:

1. *Mixtura Ergotine Bonjeani*.—(*Potio d'ergotine de Bonjean*.)

R.

Ext. ergot, 15 grs. fl. ext. ergot, fl. 3 ijss.

Aq. fl. 3 ij.

Syr. flor. aurant. 3 vi.

Dose. A tablespoonful a few times a day. As a hæmostatic, a tablespoonful every ten to fifteen minutes.

2. *Mistura Hæmostatica*.—*Shæller*.

℞.

Fl. ext. ergot, fl. 3 iss.

Fl. ext. ipecac, grs. viii.

Aquæ, fl. ʒ viii.

Tinct. opii simpl., fl. ʒ j.

Acid phosphoric, m. xxxv.

Syr. cinnamon, fl. ʒ x.

A tablespoonful every half to one hour.

3. *Mistura Hæmostatica*.—*Waldenburg*.

℞.

Fl. ext. ergot., m. lxxv.

Fl. ext. cinnam., m. xxxvi.

Aq., fl. ʒ v.

Tart boraxat, ʒ ijss.

Syrp. cinnamon, fl. ʒ vi.

A tablespoonful every one or two hours in chronic metrorrhagia and incontinence of urine.

4. *Mixtura Obstetrica*.—*Staoross*.

℞.

Fl. ext. secal. cornut., fl. ʒ ss.

Aq. fl. ʒ viii.

Ext. opii, grs. viii.

A tablespoonful every ten minutes.

5. *Mistura Styptica*.—*Lange*.

℞.

Ext. ergot, grs. xv.

Tannin, grs. xxx.

Water, fl. ʒ vi.

Syrup, fl. ʒ j.

A tablespoonful every hour in hæmaturia.

6. *Pilulæ antihæmoptysica*.—*Lebert*.

℞.

Ext. secal. cornut.,

Tannin                   āā, fl. ʒ j.

Ext. opii grs. xv.

Succ. lixuirit, q. s.

Make 90 pills. One pill every two hours.

7. *Pulvis antiblennorrhœa*.

℞.

Ext. secalis cornut., grs. viii.

Ferr. oxydat., grs. lx.

Camphor, grs. iv.

Vanillæ saccharat., ʒ iiss.

Divide into 50 powders. One powder every morning and evening in chronic blennorrhœa.

8. Pilulæ antidysmenorrhœæ.—*Gallard*.

℞.

Ext. secalis cornut.,

Ferr. oxydat.,      āā. grs. lxxv.

Ext. opii, grs. iv.

Fiat pilulæ, 30. Two pills twice or three times a day before each meal.

9. Pilulæ Styptica.—*Harios*.

℞.

Secalis cornut., grs. xv.

Acid tannin, grs. iv.

Digitalin, gr.  $\frac{1}{8}$ .

Fiat pilulæ, 10. One pill every three hours.

10. Trochisci Ergotæ ferrata.

℞.

Ferr. pulv., grs. cl.

Secalis cornut., grs. lx.

Massa cacaotin, ʒ iij.

Fiat trochisci, 100. One three to five times a day in incontinence of urine.—*New Preparations*.

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## OVARIOTOMY.\*

Dr. Bozeman gives us a very instructive pamphlet strongly marked by personal opinions, but perhaps all the more valuable for that.

He institutes a comparison between Schröder's successes under

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\*Remarks on Ovariectomy, with Relation of Cases and Peculiarities of Treatment. By Nathan Bozeman, M. D., New York.

the antiseptic system, in which the results—80 per cent. of recoveries—were highly gratifying. But M. Spencer Wells long before this, had a series of twenty-seven successful cases. As satisfactory as these may be considered, Mr. Keith, of Scotland, achieved a more brilliant result, accomplishing under the Lister method 96 per cent. of cures.

Mr. Keith says: "Since 1876, every operation has been performed with all Mr. Lister's care, under the carbolic acid cloud, and I shall never go back to the old way." He performs all his operations, however, with the closest attention afterward to the details of surgical treatment. No other symptom has attained anything like Mr. Keith's successes in a large run of cases, and Dr. Bozeman doubts whether the mortality of this operation in the hands of all surgeons is below 20 per cent.

It is, therefore, the general mortality of 20 per cent, instead of 4 per cent., as shown by the individual death-rate of Mr. Keith, that is to be lessened by improved methods of treatment, and the question now is, how can this be best attained? Death results, in about seven-eighths of all cases, from shock or collapse, hemorrhage, exhaustion, peritonitis, and septic intoxication, pyæmia and in a large extent within the first three or four days. The late Dr. Peaslee, in speaking of the causes of death after the operation of ovariectomy, says: "Thus shock and collapse, when fatal prove so in more than one half the cases within 48 hours; and in more than two-thirds within 96 hours. About one-half of those who die of hemorrhage perish within 24 hours, and seven-eighths within 72 hours. Acute peritonitis proves fatal in 12 to 24 hours, and on to the eighth day; nearly one-fourth of the whole number dying on the third day alone, and nearly two-thirds of the whole within the first 72 hours. Asthenic peritonitis proves fatal from the ninth up to the 21st day, or even later.

The proper plan of treatment is then next treated.

Dr. Bozeman discusses the application of ice or cold water affusions to the abdomen as a means of reducing the temperature and lowering the pulse after ovariectomy. He does not deny that they accomplish these objects to almost any desired extent for the time being, but he thinks the vital forces are weakened, and the integrity of remote organs is impaired by their use, especially when long con-

tained, and he, therefore, regards them as more powerful for evil than for good.

The experience of Dr. T. G. Thomas with the use of cold-water is reviewed in the following paragraphs :

1. That sulphate of quinine and the salts of salicylic acid, if antipyretic at all, are only so slightly as not to entitle them to any confidence in the treatment of peritonitis and septicæmia resulting from ovariectomy.

2. That cold-water affusion over the abdomen is antipyretic in the highest degree, and deserves to take precedence over all other known methods as a reliable means of controlling the peritonitis and septicæmia, on account of the simplicity of the method and the ease with which it can be carried out upon Kibbee's cot.

3. That the dangers of cold-water affusions over the abdomen, if there be any incident to the practice, are so slight as only to require ordinary precautions for their avoidance, and that they should not stand in the way of the employment of so valuable a method to control the hyperpyrexia of peritonitis and septicæmia.

4. That cold-water affusions over the abdomen, while they are not directly curative in themselves of peritonitis and septicæmia, yet are indirectly so to a higher degree than any other known agent by preventing disorganization of the blood and serious impairment of the vital functions.

Dr. Thomas' experience, however, resulted in a mortality of 25 per cent., and, Dr. Bozeman continues, is certainly not promising when compared with Mr. Keith's rate of ten per cent.

A fatal case is then related in which the author employed cold-water, showing at the autopsy, peritonitis and pleuro-pneumonia, with effusion, and he then pertinently asks—"may we not in attempting, with so powerful an agent, to disarm peritonitis and septicæmia of that dire phenomena—high pulse and high temperature—on the one hand, directly favor or produce, on the other hand, the identical complications and lesions mentioned?" These are the author's convictions.

The treatment before the operation, as employed by Dr. Bozeman, consists in attention to the general health. Quinine is given, 15 grains the night before the operation, and 10, with a grain of opium the following morning, after the lower bowels have been

emptied by a lavement of warm water containing a small quantity of castile soap, and common salt.

*After the Operation.*—The remedial agents to be employed “are principally quinine, opium, brandy and whiskey, champagne, and any other forms of medicine required or best suited to the individual case. After the patient has recovered from the anæsthetic, all sources of annoyance or direct irritation, of whatsoever nature, are to be avoided as far as possible, and none among them I conceive is more worrying than that of the hypodermic syringe. The use of this instrument I would, therefore, restrict to the narrowest limits, trusting to other modes equally efficacious for introducing morphine into the system. But can it be said that the stomach affords this facility to the desired extent? Certainly not. But this and the rectum together unquestionably do to a very high degree, not only as regards medicines, but also articles of food. When both of these fail, and the patient is *in extremis*, then the hypodermic syringe may play an important part in introducing into the system not only morphia, but quinine, brandy or ether. The form of anodyne which I prefer to all others is Squibb’s compound liquor of opium. It is more uniform and reliable in its strength than laudanum, and for that reason, if no other, is more valuable. The object to be attained by this preparation of opium is not only the control of pain, but the lessening of general reflex nervous irritation. It also antagonizes the unpleasant effects of quinine upon the brain, thus giving to the latter greater potency in controlling not only cardiac and pulmonic action, but the process of disassimilation or tissue changes upon which depend, it is believed, the excessive body heat. My rule now is to administer *per rectum*, as soon as the patient is removed from the operating table to her bed, one drachm of the above preparation of opium with ten grains of sulph. of quinine in half an ounce of acidulated water. This will usually be found sufficient to lull the attending pain after the effects of the anæsthetic are passed. The dose is afterward reduced to half a drachm with same quantity of quinine, and repeated every six hours. Should severe pains develop in the intervals, the hypodermic use of six to eight minims of Magendie’s sol. of morphine is allowed. According to my experience, such emergencies arise only occasionally, and often not at all, in the entire after treatment.

This quantity of opium, about four and a half grains in the 24 hours, keeps the patient in a quiet, drowsy state, ready to take nourishment per orem and rectum at almost any moment, and again to relapse into the same somnolent state, seemingly without disturbance. It is seldom necessary to increase the dose of quinine mentioned. This quantity, 40 grains in the 24 hours, with the 25 grains given the night and morning preceding the operation, will rarely fail to produce its specific effect within 36 or 48 hours, just at the time it is needed to infuse the blood with life-giving and life-saving qualities, and thus control or moderate the rise of temperature. I have seen as small a quantity as 32 grains of quinine, given in this way, followed by thorough cinchonism, with almost immediate reduction of both pulse and temperature; but usually double or triple this quantity will be required to produce the desired effect. I am satisfied that the reason why those who have tried and condemned quinine as useless in controlling hyperpyrexia after ovariectomy, is because they have not commenced its use early enough, have not properly combined it with opium, or have not given it in sufficient quantities. The disadvantages of waiting until peritonitis and septicæmia are developed before commencing the use of the remedy, and the advantages of giving it early in combination with opium by the rectum, are so evident, it seems to me they require only mention here.

But quinine and opium are not the only remedies I give by the rectum after ovariectomy. Brandy, in doses varying from one to four drachms, at intervals of three hours, may thus be administered with the greatest advantage when the stomach is irritable and stimulation is called for.

Second, the kind of fluid to be employed after ovariectomy. The introduction of food into the system by the rectum—rectal alimentation—is of the greatest importance to insure continuous support of the vital forces, and the best results from quinine and opium as regards the control and moderation of fever. The articles best suited for this purpose are unquestionably beef-tea, mutton-broth, chicken-broth, and mashed beef. The last named I greatly prefer, as it far exceeds in efficiency any of the other forms of animal nutriment mentioned. It is prepared by first chopping up the beef very fine, say three pounds, and then putting the whole into a wooden



bowl and mashing it with a pestle. Now, cold water, say a teacupful, is added, and thoroughly incorporated with the mass. This being done, it is next placed in a cullender, and all the juice pressed or rubbed out with as much of the muscular fibre as will pass through the holes. Again the juice is placed in a fine wire strainer and thus cleansed of all the larger particles of meat-fibre that would clog or otherwise obstruct the pipe of the syringe. Thus is obtained about sixteen ounces of juice, which is believed to contain the nutritive elements of about one-third of the three pounds of beef employed. For keeping, it should be set in a cool place or upon ice, and for use warmed over a spirit-lamp or otherwise. It may be administered alone or in combination with pancreatine. In the proportion of two ounces to one drachm of the latter an excellent emulsion is formed, which is about the quantity to be administered at a time. Its use should be commenced three hours after the first dose of quinine and opium, and it also is to be repeated every six hours. If it manifests any tendency to irritate the rectum, so as to provoke a discharge, twelve to fifteen drops of the preparation of opium indicated (*liq. opii. comp.*) must be added. In this event, the quantity of the latter used with the quinine is to be lessened in like proportion, unless there be a demand for more than two drachms in the twenty-four hours, which is hardly probable. When the necessity arises, brandy may be combined with the emulsion in quantity varying from one to four drachms. The emulsion may also be used as a vehicle for the quinine and opium instead of the acidulated water, using for the purpose half to one ounce. In this manner from eight to ten ounces of the emulsion are introduced into the system in twenty-four hours, equal to half a pound or more of beef.

Thus the rectal alimentation, medication, and stimulation gradually carried to the point of giving the greatest amount of nutrition and support.

But again, ingesta by the mouth, when it can be tolerated, is no less important than by the rectum. I only mention this function last, natural as it is, because it is so liable to be disturbed or interrupted at the outset of the treatment. The stomach, almost always irritable from the anæsthetic for the first six or eight hours, can only be made available for the introduction into the system of med-

icines and food under the most careful watching and with the greatest precautions. Too early resort to it for either purpose is highly prejudicial to success, and oftentimes leads to irreparable mischief. One cannot be too cautious, therefore, in selecting such articles, both of medicine and of food, as may be best adapted to the ends in view and in testing with them the strength of the stomach.

As regards stimulants, brandy, whiskey, and champagne are the best and most available. Whichever one may be selected, it is to be given in small quantities, and often repeated. When tolerance of the stomach is assured and necessity requires it, the dose can be gradually increased, but under all circumstances this must be done cautiously, otherwise much valuable time must be lost. The same thing is true of all medicines employed to meet special indications in the after treatment.

Much discrimination is called for in selecting articles of diet and in regulating the quantities to be given. Rice-water, barley-water, milk, milk-and-lime water, milk porridge, beef-tea, chicken broth and mutton broth are the articles to be relied upon.

Of these, milk alone, or milk with lime-water, or milk in the form of porridge, is by far the most valuable and reliable in the beginning of the after treatment, and given with the same precautions pointed out with reference to the use of stimulants, it seldom fails to give satisfaction, especially when used supplementary to regular rectal alimentation. Beef-tea and broths are equally serviceable after a few days, and may be alternated with the milk, or given alone, according to the fancy of the patient or the wish of the surgeon to discontinue rectal alimentation. Given in teaspoonful or tablespoonful doses and repeated every half or every hour, considerable quantities of any one of the articles named may be given in the 24 hours without disturbing the stomach or seriously annoying the patient. The patient being constantly under the influence of opium, given by the rectum, sensitiveness, not only of the stomach, but of the entire alimentary canal is held in abeyance and a state of almost continuous slumber is maintained. Borborygmus and tympanitis, usually so constant and persistent after ovariectomy, under the expectant plan of treatment, show themselves in this state of quininism and semi-narcotism only to a very slight

extent, and often not at all. These are advantages which cannot be too highly estimated in any course of treatment. The meteorism of typhoid fever, a like condition, my friend, Dr. Alexander Hadden, of this city, informs me he controls with an equally high degree of certainty by the employment of salicylate of soda.

The prevention of shock after capital operations by previous administration of large doses of quinine, as claimed by Dr. Hunter McGuire, of Richmond, has its explanation no doubt in the profound and salutary effect which the remedy produces upon the cerebro-spinal and sympathetic nerve-centres. That shock from the operation of ovariectomy, attended with or without serious loss of blood, is a frequent cause of death, immediately or remotely, there can be no doubt. That quinine does prevent or lessen the tendency to shock in capital operations in a marked degree, I am thoroughly satisfied from my own somewhat large experience with it years ago in the general practice of surgery.

The minute detail of the eight cases which follows, will be read with eager interest by all general practitioners to whose lot may fall the anxious care of a case of ovariectomy. But we have not room to reproduce more than the general remarks on the first six cases which follow :

“An examination of the histories of the series of six cases in which ovariectomy was performed shows the following : The age of the patients varied from 22 to 65, the average being  $39\frac{1}{2}$  years. One was married without offspring, two were widows who had borne one and two children respectively, and three were unmarried. In four cases general anæmia and emaciation were marked, and in the other two these conditions were present, but less appreciable on account of the shorter duration of the disease. In five cases percussion over the loins materially aided in the establishment of the diagnosis of the ovary involved. In one case the method failed on account of the increased length of the pedicle and the peculiarity of the fixation of the tumor on the opposite side. In the first two cases no particular attention was paid to the preparation of the system for the operation, further than to use for a few days the warm bath followed by vaseline inunctions and to clear out the bowels the night before. In the other four cases there was more or less preparation ; for example, nourishing and supporting diet was

employed in one ; the same and quinine in another ; the same with tincture of iron and quinine in a third ; and the same with salicin and quinine in the fourth. The time taken for the operations varied from 27 to 62 minutes, the average being 52 minutes. In all the operations the antiseptic method of Mr. Lister was employed. The small incision was adopted in five, and the medium in one operation. In four cases the parietal, omental, and the mesenteric adhesions were extensive, resisting, and difficult to overcome, but unimportant in the remaining two. In three cases both ovaries were found diseased and were removed. In one case an ovary had passed around one of the round ligaments of the uterus and was followed by several coils of the pedicle. In all the cases the pedicle was transfixed with a double waxed carbolized silk ligature, then tied right and left, cut and dropped. No drainage tube was used in any case, and in only one was a tent left in the lower angle of the wound. In five cases the abdominal wound was closed with waxed carbolized silk sutures, made to include the peritoneum. Through mistake the abdominal wound, in one case, was closed with plain silk sutures, and although no harm followed further than suppuration in their tracks, they are not to be recommended. In three cases the resulting peritonitis was violent, in one moderate, and in the remaining two mild. In one of the first two cases there were evidences of inflammatory products in the peritoneal cavity, but with no other result than protracted recovery (this was the Case in which cold-water affusions over the abdomen were employed for 44 hours) ; and in the other there was suppuration and discharge of pus through the wound on the ninth day, which resulted, as a matter of course, in protracted recovery. In the remaining four cases the recoveries were all prompt. In all six cases the average of the pulse for the week of active treatment was 98 ; that of the temperature for the same time, 100° F. In five cases free nourishment both by the mouth and rectum was employed, and in one by the mouth alone. In four cases nourishment by the rectum was commenced during the first day, and in two, by the mouth. In all six cases quinine and opium were given in combination, and invariably by the rectum. The quantity of the former given per day varied from 18 to 40, the average being  $26\frac{1}{4}$  grains, and that of the latter (liq. opii comp.) for the same period, from  $1\frac{1}{8}$  to  $2\frac{1}{4}$  drachms,

the average being  $1\frac{2}{3}$  drachms. In two cases the remedies were commenced one hour after the operation, in one two hours, in one 18 hours, in one 30 hours, and in one, (the first of all) 72 hours; the changes in time, for the most part in the series, being in the inversed order here given. In four cases decided cinchonism was produced, and in two, if present at all, it was so slight as not to be perceived by the patient.

Of the eight results recorded, seven were complete cures, giving a mortality of  $12\frac{1}{2}$  per cent.— $7\frac{1}{2}$  per cent. less than the average mortality attributed in the outset of these remarks to the practice of all operators. Again, counting the number of diseased ovaries removed, eleven, with only one failure by death,—which is a legitimate mode of presenting the subject—and the comparison is placed in a still better light. The failures would then stand at 9 per cent.

These eight cases, with one (successful) previously reported in the *Medical Record*, (Sept. 1, 1866), comprise my entire experience in the operation of ovariectomy, and altogether show a death-rate of 11.11 per cent. Prof. Nussbaum has said that if a surgeon could commence his career as an ovariectomist with the experience of twenty operations, he might expect in the course of time to record a respectable average of success. If the results here recorded teach anything, it is that a mere tyro may do this as well as the self-constituted ovariectomist with his twenty embodied experiences, if he will take the trouble to make himself familiar with the principles of the operation, and is patient and painstaking in all its requirements and details.

I think I have proven by my experience thus far that Professor Nussbaum is in error, and that it is even possible for an ovariectomist to commence with a respectable average of success, if, as stated, he will only take the pains and trouble to do his work well, and above all, to bear in mind the time-honored maxim, accredited to Sir Astley Cooper, "An operation done well, is done soon enough."

I know of no operator in this country who has cured eight out of nine of his first cases—88.89 per cent., the entire mortality being due to cancer; nor do I believe the records of the profession in Europe afford another example of an operator having secured in his first cases eight consecutive successions—100 per cent.

There are many eminent ovariotomists both at home and abroad who have had far greater success in a larger number of cases. To this fact I have already alluded. But their great success was not obtained at the beginning, nor can its superiority be used as an argument against a method which so far as it has been tried, has yielded results quite as favorable, viewed from a scientific standpoint.

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### ENGLISH PHARMACY.

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The following from a recent letter of Prof. L. P. Vandell, is rather a remarkable statement respecting the state of Pharmacy in London and would hardly be creditable were it not from such good authority and so direct.


“In nothing is London worse off or more behind the times than in her pharmaceutical preparations. The other day I wanted some citrate of iron and quinia pills, and I was told at one of London’s chief retail establishments that pills could not be made of cit. fer. et quinia, or rather that no way could be devised of preventing their running together. Finding argument and instruction useless, I suggested capsules. Positively I do not believe the people of the shop had ever seen a capsule. At any rate they were utterly ignorant of them, and declared they are never used over here. Having no fancy for a solution of ferri et quinia cit., which I was assured was the only proper way to take the medicine, I asked for dialyzed iron, and the article presented was simply shameful. In color it was correct, but it had not one other physical property of dialyzed iron. Instead of being bland and smooth to the taste, it was rough and astringent; and instead of being neutral, it was excessively acid and put the teeth on edge. I asked for Wyeth’s dialyzed iron, which is always perfect, but they had none. At several places—all in the West End, the fashionable and rich part of London—I have tried the dialyzed iron, and without exception it is vile and abominable. True dialyzed iron has little more taste than blood; slightly diluted it tastes quite like blood. I am sorry to say that so far as my travels have extended, in America and in Europe, I have found genuine dialyzed iron the very rarest of medicines. Pure it is one of the best feruginous preparations yet discovered. As it is commonly found in the shops it is nasty and without merit.—*Louisville Medical News.*”

## EDITORIAL.

### NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED  
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, }  
THOMAS F. WOOD, M. D., Wilmington, N. C. } Editors.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

### OUR PROSPECTS.

The NORTH CAROLINA MEDICAL JOURNAL completes its second volume with this number. It was begun at a time when the fortunes of such periodicals were at a low ebb. The excellent Charleston Journal had suspended, and there were few things to encourage the commencement of a new journal. But we had estimated the profession by its previous progressive advancement, thoroughly satisfied that any body of men that could by dint of energy work such reforms as the North Carolina doctors had done in a quarter of a century, would not be found lacking when more progressive work demanded their attention.

The time was drawing rapidly on, too, when preventive medicine was to claim the attention of the profession. The public must receive its impulse in sanitary science through the only class of people to whom such a course was a positive disadvantage, the medical profession—and how was the medical profession to get the ear of the public without the medium of the press?

Furthermore, the profession of the State had formerly a medical journal,—a journal which by dint of superior ability made way against adverse fortune and held on to life tenaciously—only abandoning the field in 1862 when the lack of printing material made it necessary.

The experiment which we begun, not without some misgivings at first and contrary to the advice of some of our friends who had been informed of our design, has taken a strong hold on the profession, and is growing in favor steadily. Our circulation has largely increased and we expect to double our subscription in the coming year.

We promised our readers to keep before them the current of medical science and art, giving them 50 pages monthly. We have made no issue of less than 64 pages, and we have given them as many as 84 pages.

Having shown our earnestness of purpose, we think we have a right to ask the profession of the Carolinas to show their appreciation with their pen and their purse. We desire new subscribers, new contributors, and we also ask that our old friends will still give us their helping hands. For our part we will not relax our efforts, but seek by every means in our power to make our work more acceptable.

With the January number we hope our old subscribers will renew their subscription by prompt remittance, and induce their neighbors to do the same.

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## CROUP AND DIPHTHERIA.

The distinguishing differences in these two diseases have been agitating the medical public for some years, and more recently the Committee of the British Medical Association made a report, as unsatisfactory and inconclusive as any yet made on the subject.

While we must be careful not to found our theory upon this or any other question before we have studied enough well digested facts to warrant an opinion, there are at times in the experience of



physicians, cases which seem to carry conviction in spite of themselves.

Recently we saw in the same day a case of laryngeal diphtheria and one of membranous croup. Both were fatal. The case of diphtheria occurred in a house where another case of the same disease was in progress. The child, a plump boy, was little over two years of age. On the day after the membrane appeared on the right tonsil there were  $105^{\circ}$  of febrile heat. The membrane rapidly spread downward into the larynx, and on the fifth day death occurred by asthenia. There was a dull cyanotic hue around the lips and nose for two days preceding death, the temperature remaining quite high, although the thermometric register was not obtained. During the progress of the case the child was fretful, clinging to its father day and night, resisting medicine or food or any attention or inspection, by any other person. The saliva was ropy and viscid and copious, and the nostrils were constantly discharging an acrid mucus.

The same night we were summoned to a male child a little over two years old, living four miles in the country, for whom we had prescribed during that day and the day previous, for croup, by telephone. The treatment was unavailing, and a visit became necessary. Upon our arrival the child had ceased to breathe except at long intervals, was deeply asphyxiated, and had even quit struggling for breath. Tracheotomy was resorted to with the least delay, and after a gush of venous blood, the air rushed in. Soon the respiration was improved, and the cheeks returned to their usual healthy color. Death occurred eight hours after from asphyxia, however, the croupous deposit having extended into the bronchi. A careful examination in this case revealed no sign of membrane at the point of incision for tracheotomy, although sufficient time elapsed for it to form.

This child had had croup the night previous, and had been treated after directions given by us on a former occasion. In the day he was lively enough, engaging in his usual plays, although hoarse. The succeeding evening—the evening of the fatal day—the croup symptoms increased rapidly, and it was on this account we were summoned.

The temperature in this case was three degrees below the normal standard. There was no fetor of the breath, there had been no peevishness, no loss of appetite.

Here were two cases running very nearly parallel. There are these differences to be observed.

## CROUP.

The duration of the disease dating from the first night was forty-eight hours.

No fever, but a lower temperature.

No fetor of the breath.

No sign of membrane on the fauces.

No expectoration of ropy saliva, no discharges from the nose.

No case of diphtheria in the house or in any neighboring house.

No diphtheritic deposit in the tracheotomy tube, or in the incision, although eight hours elapsed, after the operation, and before death.

A robust child, vigorous and strong in the day between the two attacks.

No swelling of the maxillary glands.

No difficulty in swallowing.

Died from asphyxia.

## DIPHThERIA.

The duration in this case was five days.

Fever reaching 105° on the second day.

Some fetor of the breath.

Membrane on the tonsil and in the nose.

Expectoration of ropy saliva, and discharges from the nose.

A sister convalescing from diphtheria in the same room

During the attack was peevish, and had all the appearance of one suffering from a low form of fever, such as dry-coated tongue, sordes, anorexia, &c.

Swelling of the maxillary glands.

Difficulty in swallowing.

Died from asthenia.

There were evidences in these two cases which made it plainer than an inadequate description could make it, that they had nothing in common but the mechanical obstruction of the air passages. We can readily understand how a mistake might be made in diagnosis between laryngeal diphtheria and croup on the spur of the moment; but we can see no good reason why in describing the diseases that they should not be made pathologically distinct.

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Dr. H. H. KANE, of 366 Bleeker St., New York, will be pleased to receive written or printed items about the use of morphia, hypodermically. Due credit will be given to his correspondents, but names of patients will not be used except by consent of the correspondent. Dr. Kane is collecting material on this subject.

## REVIEWS AND BOOK NOTICES.

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INFANT FEEDING AND ITS INFLUENCES ON LIFE, OR THE CAUSES OF INFANT MORTALITY. By C. H. F. ROUTH, M. D., M. R. C. P. L. Third Edition. Pp. 270. William Wood & Co., 27 Great Jones St. New York.

No questions give the general practitioner more daily concern, than the proper nutrition of infants. Every day old errors are to be combatted, and correct teaching inculcated, in the innumerable paragraph sermons delivered by them in the sick-room. Every book, therefore, which tends to a more enlightened view of the subject is welcomed.

This work deals first with the statistics of infant mortality and viability.

The causes of infant mortality are considered *first* as to the want of breast-milk, which the author thinks is not so great as generally represented, but which he recognizes as great, and the evil effects of artificial feeding. In many cases under the latter head, the food supplied acts little better than a slow poison; of this the author treats when he speaks about alumnized bread and vegetables fed to infants.

He lays it down that animal food is required for some time after birth, and draws the analogy between the lower order of animals and man, showing that even in granivorous animals the food for the first few days is animal food, or vegetable food so semi-digested in, or intermingled with, the animal fluids, that for all purposes it may be regarded as animal food.

The Second Part of the work treats of Lactation, and wet nurses, and kindred topics. The amount of milk estimated to be secreted by a healthy mother for a year is 1000 pounds.

Defective lactation is treated hygienically and medically.

Deductions in reference to alimentation made from the composition of milk and its substitutes, comprise the Third Part of the work. Under this head are discussed the relative value of the different animal milk, and such substitutes as cream, dessicated milks, eggs, bone soups, and jellies, beef-teas, raw meats, &c., &c.

There is very much that is useful for a doctor to know in this volume, and indeed it would be criminal neglect for one to give

advice about infant dietetics who know less, and he who knows more and can influence mothers to follow his advice is a lucky fellow.

The volume costs *only a dollar* to regular subscribers!

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MEDICAL CHEMISTRY, Including the Outlines of Organic and Physiological Chemistry. Based in part upon Riche's Manual de Chimie. By C. GILBERT WHEELER, Professor of Chemistry in the University. Second and Revised Edition. Pp. 424. Wm. Wood & Co. New York. 1880.

Not only medical chemistry, but chemistry in all its bearings is neglected by medical students. Nor is the student the only one to blame, (though he deserves and should get his share of it), for the confusion incident to a rapidly progressive science has not been successfully overcome by many writers on the subject.

The book before us is based upon Riche's Manual, and will be well received by those who have prepared themselves in general chemistry. It is written in a comprehensive manner, and the writer has skillfully incorporated items of useful and entertaining knowledge into the usually forbidding text of such works.

Evidently light is dawning in this benighted and confused region of science, and as the teachers devote themselves to making medical chemistry attractive, the students will consider it of more importance to undertake to master it, and in the meantime the colleges and medical examining boards are demanding better preparations in this direction.

Few medical men, though, will share the enthusiasm of at least one chemist, who sets forth that "upon the successful pursuit of the study of animal chemistry, all medicine rests."

Chemistry has not been looked upon with any such favors by practicing physicians of late years, nor has it deserved to be esteemed in so eminent a degree because of pathological and physiological revelations made, although the whole profession is willing to give its universal meed of praise for the acquisitions to our *materia medica*.

The author adds, "animal chemistry finds no advocates at our Universities and public schools, and is not made a part of the curriculum; it is professedly taught, however, at our medical schools, but if one

takes the trouble to inquire into the teachings, one is rudely shaken in their belief. What is really taught is not animal chemistry, but a certain number of facts."\*

This stricture is not applicable to Professor Wheeler for his work is entitled to a high rank among the text-books for medical students, and is destined to supplant many American rivals at present in use.

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REGULATIONS FOR THE GOVERNMENT OF THE UNITED STATES  
MARINE HOSPITAL SERVICE. Approved by the Secretary of the  
Treasury, Nov. 10th, 1879. Washington: Government Printing  
Office. 1879. Pp. 146.

The way in which the U. S. Marine Hospital Service has been managed, makes a notice of this pamphlet, designed only for the instruction of the officers of the service, of interest to the profession at large.

"The Marine Hospital Service is the medical department for the mercantile marine of the United States. It was established in 1798, and is charged with the duty of preserving the health interests of the officers and seamen employed on American vessels engaged in the foreign, coastwise and inland commerce. The original object of the establishment of the service was to encourage fit persons to become seamen by making provision for their care when sick or disabled." The expenses of the establishment are met by the hospital dues assessed and collected from every seamen, at the rate of forty cents a month.

It is, therefore, a provident association under the charge of government officers, furnishing relief to a large number of persons, at a rate far below that paid for similar service, not only in any department of the general government, but of State or municipal governments.

In the provisions of this service, an admirable system of outdoor relief is furnished to officers and men entitled to it, but who are not sick enough to enter the hospital as patients.

Every year demonstrates the vigor and economic management of this service, and the whole country is under obligations to it for the initial movement in national sanitary matters.

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\*Kingzett's Animal Chemistry, p. 15.

**THE THROAT AND THE VOICE.** By J. SOLIS COHEN, M. D. American Health Primer. Philadelphia: Lindsay & Blakiston. 1879. Price 50 cents.

This is the most interesting of the very valuable primers of this series. The average of our patients know less about the air tracks of the body than of any other part, and they know little enough of any part. This little book teaches many a useful lesson, which having been acquired by the general reader, would make them easier to treat successfully by the doctor. We hope these books will find their way into every family in the land.

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**WALSH'S HANDY LEDGER.** Published by RALPH WALSH, M. D., 326 C. Street, Northwest. Washington, D. C. By mail, \$3.00.

This is the handiest and completest system of accounts for physicians we have seen. It will save time and money for any physician who uses it. The notorious slackness with which doctors keep their accounts has now its effectual remedy in the adoption of Walsh's Handy Ledger.

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**CHICAGO MEDICAL GAZETTE.** E. C. Dudley, M. D. Editor and Publisher. Volume 1, Number 1. January 5th, 1880.

This is a new bi-monthly journal added to the list of excellent journals already in the great North-West. It is to be issued on the 5th and 15th of each month. It gives promise of boldness of opinions and independent criticism. It is well printed, and has all the attractions necessary to make it a popular enterprize. Subscription, \$2.00 a year.

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**A NEW GERMAN SURGERY**—A new work on surgery entitled *DEUTSCHE CHIRURGIE* is being published in parts, at Stuttgart. The Editors are Professor Billroth, of Vienna, and Professor Lücke, of Strasburg, and the contributors are all eminent writers. Prof. Recklinghausen treats of disturbance of the circulation and of nutrition; Professor Kaposi, of syphilis; Prof. Burns, of fractures; Prof. Volkmann, of diseases of the bones and joints; Prof. Lücke, diseases of the thyroid gland, and Billroth, those of the mamma; Esmarch, diseases and injuries of the anus and rectum; Prof. Nussbaum, diseases of the abdomen; Prof. Maas, diseases of the kidney and bladder and Prof. Olshausen, diseases of the ovaries.

We may expect, therefore, a great surgical work.

## CORRESPONDENCE.

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TARBOROUGH, N. C.,

December 1st, 1879.

*Editors of North Carolina Medical Journal:*

On the 16th day of September last, I was sent for to see a negro man, Willis C., living on the farm of Mrs. C. I was informed on my arrival, that he was having chills, and upon examination, found that he was suffering from intermittent fever. I immediately prescribed the sulph. quinia, and in order to prevent another chill, it was necessary to administer a full dose. I weighed twenty grains of quinia, and added ten drops of elix. vitrol and water q. s. After preparing the above, I was requested by the man to examine his wife, who was at the time, sitting in a chair. I found her pulse 120 per minute, and weak, temperature 102°, respirations 25. In fact, from the history of the case, my diagnosis was typhoid fever. I prescribed for this patient, R. Elix. vitriol, gtts. 15, Quinia sulph. grs. ii., in wine glass of water every six hours, and ordered milk toddy and chicken tea every two or three hours, and left to return the next day. Soon after I had gone, the nurse, instead of administering the solution of quinia to the husband as directed, gave it to his wife, and she died within one hour afterward.

She did not seem in any immediate danger when I left her. My opinion in regard to this case is, that owing the weak condition of the heart, the amount was too much, and it paralyzed the heart, which produced death.

Did the quinia cause her death, or did it not?

Will some member of the profession answer the question?

E. TRAVIS SPEED, M. D.

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*Apomorphia in Asthma.*—One-tenth of a grain of apomorphia introduced hypodermically will relieve the orthopnoea of asthma in a surprisingly short time. It will be well if our readers will add this to their list of "remedies."

## LITHOTOMY BY J. M. LYLE, M. D.

FRANKLIN, MARION COUNTY, N. C.,  
November 13th, 1879.

*Editors N. C. Medical Journal:*

This operation, the first that has been performed in any of these far western counties, was done skillfully, successfully, and in good time, in Franklin, on the 23d of October, on the person of Canada Henderson, a citizen of this community, 81 years of age, in which were removed nine *calculi* of considerable size and tenacity.

The operation was performed by Dr. Lyle, our worthy Superintendent of the Board of Health, who invited all the resident physicians of the county to be present, with which they cheerfully complied rendering him all the assistance required—one only being necessarily absent.

The patient is now doing well, at the end of three weeks, notwithstanding his great age.

Reported by  
H. G. WOODFIN, M. D.

## BROWN-SÉQUARD'S ANTI-EPILEPTIC MIXTURE.

We have been asked to reprint Brown-Séquard's formula for epilepsy, but would like to remark in doing so that the doctor that relies on this bit of polypharmacy has hardly gone very deep into the art of therapeutics.

The formula is as follows :

℞. Sodii bromidi, ʒ 3.  
Potassii bromidi, ʒ 3.  
Ammonii bromidi, ʒ 3.  
Potass. iodidi, ʒ 1½.  
Ammon. iodidi ʒ 1½, ʒ 1½.  
Ammon. carbonatis, ʒ 1.  
Tinct. calumbæ, fl. ʒ 1½.  
Aquæ, q. s. ad fl. ʒ 8.

Mix. Adult dose: one and a half drachms, before each meal, and three drachms at bed-time.



## THE NEW ORLEANS SANITARY AUXILIARY SOCIETY.

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We have from time to time received the pamphlets issued by this very active and useful society, and take this opportunity of commending their work to southern sanitarians.

This Society as its name implies is auxiliary to the regular legal health establishments, working within limits of its own devising, soliciting and expending donations for the prevention and introduction of diseases dangerous to the public health. The society works under a charter, which they recommend to all the towns in the State, to further the work of sanitary progress.

One of their pamphlets entitled "The Evil and the Remedy for the Privy System of New Orleans," brings forcibly and practically before the public the value of the dry-earth system, showing the details of its management, and the items of expenditure. It is clearly shown that a system could not only be made self-sustaining, but that it could be made a source of income.

The "Report on Milk and Dairies in the City of New Orleans," rehearses the evils of impure and adulterated milk, and shows the possible statutory remedies.

The public had as well listen now to these voices of warning going up all over the land from the disinterested sanitarians, for the siege of ignorance will not end until a complete triumph is effected.

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*Accurate and Delicate Process for the Toxicological Detection of Arsenic.*—(PROF. SELMI.) The method is that of Schneider, modified so as to incur no losses. The substance to be examined is to be treated with hot concentrated sulphuric acid, and during the same time is traversed by a current of hydrochloric acid gas, which carries with it all the arsenic in the state of chloride, separating it from the organic substance with which it was mixed. The arsenical liquid is then placed in a Marsh's apparatus and tested in the usual manner. The author has been thus able to obtain the metallic ring on operating upon 100 grms. of animal matter containing 1-400th of a milligram of arsenious anhydride. The author criticises the process of Gantier, which answers for recent matter, but should not be adopted if the subject is putrid or mummified.—*Atti dei Lincei in Chem. News.*—*New Remedies.*

AMERICAN PUBLIC HEALTH ASSOCIATION.

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The Seventh Annual Meeting of the American Public Health Association was held in Nashville, Tenn., commencing at 12 o'clock, noon, on the 18th ult., and continued in session four days. Nearly two hundred members were in attendance, and the proceedings were generally harmonious throughout the session.

President J. L. Cabell, M. D., of the University of Virginia, presided, 1st Vice President, J. S. Billings, U. S. A., and 2d Vice President, Samuel Choppin, of New Orleans, sitting upon his right and left, while Dr. E. H. Janes, of New York, Secretary of the Association, occupied the clerk's desk.

After an appropriate prayer by Rev. O. P. Fitzgerald, editor of the Nashville *Christian Advocate*, and the reading of the list of members so far as they had been registered, the subject of the National Medical Library was taken up, and the committee appointed to memorialize Congress in regard to the publication of the index catalogue of the library made its report. It was shown in the report, that as a result of the memorial and personal efforts of the committee, Congress appropriated \$20,000 for printing and binding the first and second volumes of the Library of the Surgeon General's office: the report recommended that the committee be continued, with instructions to urge upon Congress the necessity for providing for the completion of the work.

In adopting the order of business as laid out by the Executive Committee, it was resolved that, after the leading paper on each subject was read, all discussion should be limited to ten minute speeches.

Dr. E. M. Hunt, of New Jersey, Chairman of the Publication Committee, reported that the publication of last meeting's transactions was unavoidably delayed, but would soon be forthcoming. Adjourned until 3 P. M.

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## AFTERNOON SESSION.

On reassembling, Colonel George E. Waring, of Newport, Rhode Island, read a paper upon "The Drainage and Sewerage of Cities," taking the position that there should be a distinct separation between the application of sewerage to the removal of domestic and manufacturing wastes and soil water, and the construction of conduits for the protection of public and private property against the action of storm water—the one a sanitary and the other an engineering measure. He believed that waste pipes should not be over 6 inches in diameter, until the contents at highest rate of flow half filled the pipe; that the sewage was better carried off in small pipes, and that it could be more readily utilized for agricultural purposes if not mixed with storm water, besides being much cheaper

to construct, and easier to ventilate. He thought that perfect sanitation was more important than quarantine, as, by such measures, yellow fever would not be capable of coming into a city. He regarded this disease a minor one, and stated there were others more fatal, but which were equally preventable by proper sanitation.

A discussion of the subject was participated in by Drs. Ames, of Boston; Wight of Milwaukee; Compton, of Evansville, Ind.; A. N. Bell, of New York; Elisha Harris, of New York; Ezra M. Hunt, of New Jersey; E. Lloyd Howard, of Baltimore; Col. T. S. Hardee, of New Orleans; Dr. Tadlock of Knoxville; and Dr. Gibon, of the Navy.

Invitations were received by the Association to visit Belle Meade (Gen. Harding's stock farm, near Nashville), the Young Men's Christian Association rooms and library, and Ward's Female Seminary; and the "freedom of the wires" was tendered members of the Association by J. Compton, Esq., the Superintendent of the Western Union Telegraph Company.

The Association adjourned until 7:30 P. M.

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#### EVENING SESSION.

In the evening Gov. A. S. Marks delivered a welcoming address to the Association and was followed by Dr. E. M. Wight, President of the Tennessee State Medical Society, on behalf of that Society. The Mayor of the city, Thomas Kercheval, Esq., also delivered an address of welcome, after which Dr. Cabell, the President of the Association, delivered his annual address, which was an exhaustive exposition of the organization and trials and hopes of the National Board of Health. This concluded the first day's proceedings.

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#### SECOND DAY.

The Association met at 10 A. M., President Cabell in the Chair. Proceedings were opened with prayer, after which a list of new members was read and approved; an invitation to visit the residence of Mrs. Jas. K. Polk, between 1 and 2 P. M., was accepted.

The first paper of the day was prepared by Elliott C. Clark, Civil Engineer, of Boston, and read by Dr. Folsom, of that city, in the absence of Mr. Clark, the subject being "City Scavengering at Boston." The paper explains, at length, the plan adopted, which includes the removal of house effects, ashes and dry-house dirt; cleaning of streets, and street catch basins, and cleaning of privy vaults and cesspools; for each of these a special and separate provision is made at a total cost of \$340,000, for a population of 300,000 souls. The work devolves upon a committee of five members of the City Council, who control the annual appropriation and its expenditure. The Superintendent of the work is appointed by the Board of Health, and approved by the Mayor, and the system

has been found to work well, the secret of success being that very few changes are made in the Superintendent and those who do the labor. All the men employed are fitted for it by long training, the foremen having been promoted from subordinate positions, and many of the laborers having been employed for five, ten and twenty years.

Dr. Hugh M. Thompson, of New Orleans, read a paper on the "Disposal of Garbage of New Orleans," showing that while in former years it was used to fill up vacant lots, it is now carted on to scows and carried two miles down the river, where it becomes food for fishes.

The foregoing papers were discussed by Drs. Ames, of Boston; Brewer, of New Haven; Bell, of New York; Campbell, of Augusta; Barr, of Abingdon, Va.; Col. Waring, of Rhode Island; Drs. Wight, of Milwaukee; Otterson, of Brooklyn; Hunt, of New Jersey; Durgin, of Boston; Thompson, of New Orleans; Harris, of New York; Taury, of Baltimore; and Folsom of Boston. The question of utilizing the garbage, etc., being the point at issue.

"Municipal Sanitation," by Dr. E. G. Janeway, and read, in part, by Dr. Janes, Secretary of the Association, came next in order. It suggested, with reference to construction of dwellings, that plans be filed, with application for license to build, and that the kind of material, nature of ground to be built upon, treatment of exterior of foundations, plans of plumbing, drainage, etc., should be stated. Reference was made to a new law in New York, requiring the inspection of tenement houses; also provision in regard to the building of future houses, etc. Referring to facts in the study of contagious diseases, Dr. Janeway regards limited observation dangerous, and attaches more value to isolated cases in country places than large numbers in crowded cities; he thinks it quite important to have a uniform system for collecting and publishing health statistics, and referring to the death rate, said that irregularities occurred from estimating the population, or from basing it upon the last census. A number of resolutions were offered in this paper, for adoption, looking to uniformity in health statistics, but no action was taken.

Adjourned until 3 P. M.

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#### AFTERNOON SESSION.

Upon reassembling, Dr. A. L. Gihon, U. S. N., read a paper upon "The Protection of the Innocent and Helpless Members of the Community from Venereal Diseases, and their Consequences." The subject was ably presented and brought out considerable discussion, which was participated in by Dr. Sternberg, of the Army; Baillache, of the Marine Hospital Service; and Gibbs, Campbell, and others; at the conclusion of which a motion was made by Dr. J. M. Keller, of Arkansas, that the President appoint a committee

of three to prepare a plan for protection against venereal diseases. Adopted.

The subject of certain amendments to the Constitution was then brought up by the Executive Committee, in a report, wherein it was resolved by said committee that the Association reject the proposed amendments, and that an Advisory Committee, of which the President of the Association shall be Chairman, be nominated by the Executive Committee, for appointment by the President, to be confirmed by the Association; this committee to be constituted of one member of the National Board of Health, one from each State, [Board of Health, one from each State not having a State Board of Health], and one from the medical department of the Army, Navy, and Marine Hospital Service. This resolution was adopted, after striking out that portion included in brackets.

Dr. Hunt announced that he had received the published volume of the transactions at Richmond.

Adjourned.

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#### EVENING SESSION.

Dr. Alfred A. Woodhull, U. S. A., who was unable to attend, presented, through Dr. Hunt, an elaborate paper on the subject, "May not Yellow Fever originate in the United States," and giving an etiological study of the epidemic at Savannah in 1876. Dr. W. claims that this epidemic did unquestionably originate in Savannah, and was not traceable to importation. He brings forward many ascertained facts, and supports his argument in a most elaborate manner, and to the entire satisfaction of those who believe in the endemicity of this disease. Even a synopsis of the paper would occupy more space than this report contemplates.

Dr. T. J. Tyner, of Memphis, followed, with an interesting paper on the "Etiology of Yellow Fever in Memphis, and Remarks on Quarantine," in which he took the position that "yellow fever originated in Memphis and other cities of America, *de novo*; or, admitting that it is an exotic, I believe its spread is absolutely dependent upon some local condition;" and he believed that quarantine could only be enforced by martial law. A lively discussion of the above two papers followed, in which Drs. Early, of Kentucky; Hayes, of Florida; Wise, of Memphis; and Stillwell, of Kentucky, ranged themselves on the side of endemicity; and Drs. Elliott, of Savannah; Austin, of New Orleans; Campbell, of Augusta; and Bell, of New York, took the ground it was an exotic; and each side proved its position by a multitude of evidence and incontrovertible facts!

Adjourned.

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#### THIRD DAY.

The Association was called to order at 9:30 A. M., President Cabell in the chair.

After prayer by Rev. T. G. Jones, a list of new members was read and approved.

The election of officers of the Association for the ensuing year was then entered upon, and resulted in the choice of the following gentlemen :

President.—John S. Billings, United States Army.

First Vice-President.—Samuel Choppin, of New Orleans.

Second Vice-President.—R. C. Kedzie, of Lansing, Michigan.

Treasurer.—J. B. Lindsley, of Nashville.

Executive Committee.—Drs. C. B. White, New Orleans; J. L. Cabell, Virginia; E. M. Hunt, New Jersey; J. D. Plunkett, Tennessee; C. F. Folsom, Massachusetts; A. L. Gihon, United States Navy.

Dr. Cabell subsequently declined, and Dr. J. G. Thomas, of Savannah, was elected to fill his place on the Executive Committee.

While the election of officers was in progress, Dr. Wm. H. Brewer, President of the State Board of Health of Connecticut, read a paper upon "Rotten Wood," and gave an account of some experiments made upon various kinds of wood, showing the amount of soluble matter they contained, and the effect of decaying wood upon health.

Invitations for the next meeting of the Association were received from Evansville, Ind., and New Orleans; the latter was accepted, the date to be fixed by the Executive Committee.

The following committee was appointed by the Chair, to devise and suggest some plan for the control of the spread of venereal diseases, and report the same at the next meeting: Drs. A. L. Gihon, W. R. Griffith, J. M. Keller, Sternberg and P. H. Bailbache.

Dr. J. D. Plunkett, President of the State Board of Health of Tennessee, read a paper upon "Cotton as a Fomes," in which he took the ground that it was capable (ginned or unginned) to absorb or imbibe pestilential virus, and gave the names of many prominent authorities on the subject, adding that "the recognition of cotton as one of the class of extra hazardous fomites is well nigh universal, as its capacity to transmit or communicate yellow fever, or other infectious diseases, has, up to this time, scarcely been questioned."

Dr. G. B. Thornton, President of the Memphis Board of Health, read a very interesting paper upon the "Memphis Yellow Fever Epidemic of 1879." After stating that the question of importation or of local origin of the disease is not definitely settled by the resident profession, and adding that he is unable to satisfy himself as to the date and exact locality of the first case, he goes on to say that in every previous epidemic no trouble exists in tracing it to importation. He then gives a history of the epidemic, and of the condition of the city, doubting the prevailing opinion that the vaults, etc., gave virulence to the disease, and rather favoring the idea that it was the result of last year's visitation.

Adjourned until 7:30 P. M., there being no afternoon session, as the Association had accepted an invitation to visit Belle Meade.

## EVENING SESSION.

Dr. Henry F. Campbell, of Augusta, Ga., read a paper on the "Yellow Fever Quarantine of the Future," and stated, while he at first disliked the idea of a national or "central" quarantine, yet he now believed it, to be imperatively demanded, and that a national quarantine against yellow fever was the quarantine of the future.

A discussion of the paper followed, participated in by Drs. Holliday, of New Orleans; Dake, of Nashville; Thornton, of Memphis; Rauch, of Chicago; Thompson, of Memphis; Bell, of New York; Waterfield, of McKenzie; Harris, of New York; Hargis, of Pensacola; Clapp, of Memphis; Taney, of New Orleans; Hunt, of New Jersey; and Peters, of New York.

The discussion took a very wide range, covering not only the question of quarantine, but all known and some unknown theories of contagion, infection, etc., and only proved, as was stated by Dr. Taney, of New Orleans, that, "from the earliest time to the present day, there has been no progress made in positive knowledge, or anything settled in regard to yellow fever and how to quarantine it."

Adjourned.

## FOURTH DAY.

The Association was called to order at 10 A. M., President Cabell in the chair.

After prayer by Rev. F. A. Shoup, the list of new members was read and approved.

The Treasurer's report was referred to an Auditing Committee, composed of Drs. Smith, Bell, and Elliott.

The following papers were read by their titles, and referred to the Publishing Committee: "Post-mortem Examinations and their Relations to Public Health," by Dr. E. G. Janeway, of New York; "Action of Vegetable Acids on Tin," by Prof. Chas. E. Monroe, U. S. N.; "Water Supply," by J. Chandler, of Memphis; "International Quarantine," by Dr. B. W. James, of Philadelphia; "The Most Effective Way of Preventing the Spread of Venereal Disease," by the same; "On Sanitation of Nashville," by J. B. Lindsley, M. D.

Dr. R. G. Jennings, of Little Rock, read a paper on "Quarantine and its Results in the State of Arkansas, in 1879," in which he gave a history of the precautions taken, and concluded by saying that "no other inference can be drawn but that a thorough system of quarantine, rigidly enforced, guarantees a certain degree of protection, if not exemption, of the people from the visitation of yellow fever, proportionate to the vigilance of the officers and guards who are charged with the enforcement of its regulations."

Dr. D. C. Holliday, of New Orleans, made a report from the Committee of the New Orleans Medical and Surgical Association.

on the subjects submitted by the Executive Committee of the Public Health Association, covering the points : 1. How to deal with a city in the yellow fever zone ; 2. How to prevent the importation of a first case ; 3. How to deal with a first case ; 4. The duty of local boards to report such cases, even though doubt exists as to diagnosis ; 5. Relative to moving unacclimated population from an infected place ; 6. Measures of isolating dangerously infected places ; 7. Organizations for relief and treatment of the sick ; 8. Measures of preventing spread of the disease by railroads, including management of transfer stations ; 9. Inspection of steamboats, and should stations be established by the National Board of Health ? 10. Result of the coöperation given by said Board. The report was satisfactory to the Association and very flattering to the National Board.

Col. John F. Cameron, of Memphis, read a paper upon "Camps and Depopulation of Memphis, Epidemics of 1878-9," giving a description of the camps, and the manner of conducting them.

Dr. A. N. Bell, of New York, read a paper upon "Steamboat Inspections," illustrating his remarks with drafts of the holds of various kinds of vessels, and showing how the filth collected between the "ribs" of the vessels, from the keelson to the deck.

A number of preambles and resolutions were then presented by the Advisory Committee, eulogistic of the National Board of Health.

The subject of yellow fever at New Orleans in 1879, and the enforcement of quarantine, were discussed, during which Dr. Jerome Cochrane suggested the following "problems of yellow fever." 1. That yellow fever was the product of specific poison. 2. That the poison was something introduced into the person. 3. That it was material. 4. That it could be carried from place to place and give rise to outbreaks of fever where it had previously existed.

President Cabell announced the appointment of the Advisory Committee, as follows :—

Alabama, R. D. Webb. California, Dr. Henry Gibbons. Florida, Hon. S. C. Cobb. Pensacola. Georgia, Dr. H. F. Campbell. Illinois, Dr. J. H. Rauch. Indiana, Dr. J. F. Hibberd. Mississippi, Dr. Wirt Johnston. Louisiana, Dr. D. C. Holliday. Maryland, Dr. James A. Stuart. Massachusetts, Dr. Azel Ames. Pennsylvania, Dr. Henry Hartshorne. Ohio, Dr. T. C. Minor. Missouri, Dr. Homan, of St. Louis. Rhode Island, Dr. E. M. Snow. Tennessee, Judge J. W. Clapp. Virginia, Dr. L. S. Joynes. Michigan, Dr. H. B. Baker. West Virginia, James E. Reeves. District of Columbia, Dr. J. M. Toner. New York, Dr. Elisha Harris. North Carolina, Dr. Thomas F. Wood. South Carolina, Dr. C. W. Chamberlain. New Hampshire, Dr. L. F. Conn. Vermont, Dr. H. D. Holton. Texas, Dr. Rutherford. Wisconsin, Dr. E. L. Griffin. Minnesota, Dr. C. N. Hewitt. New Jersey, Hon. L. Lilly. Arkansas, Dr. A. L. Breysacker. Kentucky, Dr. Pickney Thompson.



Delaware, Dr. Bush. United States Army, Dr. McParlen. United States Navy, Dr. R. F. Gibbs. National Board, Dr. Stephen Smith. Commissioner of Education, General Eaton.

Adjourned.

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AFTERNOON SESSION.

The Treasurer's account were reported correct by the Auditing Committee, and turned over to his successor.

The conflicting theories of quarantine and the isolation of Yellow Jack occupied the afternoon session, and the most diverse opinions were expressed. Hon. E. E. James, of Chattanooga, covered the subject, when he said: "From the conflicting opinions of the many gentlemen so distinguished in medical and sanitary science, I have been convinced that yellow fever is epidemic, endemic, exotic and indigenous, foreign and domestic, climatic and anti-climatic, national and international; and so believing, I am in favor of that government having the longest purse and greatest power taking charge of it."

Adjourned.

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EVENING SESSION.

The committee appointed last year to distribute money to the widows and orphans of physicians who died during the epidemic, reported that no action had been taken, as no cases requiring relief had been brought to their notice, but that Dr. Peters, of New York, had collected and distributed money in that direction. Dr. Peters stated he had acted as agent of the Medical Association of New York, and that a considerable sum had been distributed, but that the Society did not wish to become the head centre and distributor of such a fund, but desired each State should look after its own needs.

The discussion of the resolutions laudatory of the National Board of Health, offered at the morning session, consumed the remainder of the evening, and were finally adopted, after which the usual resolutions of thanks were passed, and the Association adjourned, to meet in New Orleans at a date to be announced by the Executive Committee.

The following are the preamble and resolutions referred to:—

WHEREAS, The National Board of Health has, in accordance with the law which created it, requested the advice of the American Public Health Association regarding the form of a permanent national health organization of the United States, including its relations to quarantine, both maritime and inland, and,

WHEREAS, The opinions of the Advisory Council of the Association, upon the subject of health legislation, collected and presented to this body through Dr. J. M. Toner, Chairman of the Council, have been duly considered; therefore,

*Resolved*, 1. That in the opinion of the American Public Health Association, the present National Board of Health has been of such vast service to the country that it is not expedient to make any essential change in its organization, and that any minor improvement in details should be left to the Board itself.

2. That the investigations which have been commenced by the Board, are approved and should be continued, and that similar investigations should be undertaken by it into the consideration and prevention of other diseases, as well as yellow fever.

3. That Congress should appropriate sufficient funds to enable the Board to employ the best talent and apparatus in such scientific and practical inquiries.

4. That the operating of the existing quarantine law, and of the rules and regulations prepared by the National Board of Health on that subject, have accomplished great good, and that no change in the law should be made without the most careful and serious consideration.

5. That in the opinion of this Association, the execution of the quarantine laws of the United States should be under the direction of the National Board of Health and of an Executive Committee to be selected by that body.

6. That this Association has no suggestions to make with reference to any amendments to existing legislation in regard to quarantine, preferring that they should come from the National Board of Health, as the most competent body to advise whatever may be best.

7. That it is expedient for the National Board of Health to call an international congress for the discussion of the very important subjects of international sanitary quarantine, etc.

8. That it is the duty of the general government to build, equip, and conduct, at the mouth of the Mississippi river, a quarantine station, at such a place as may be designated by the National Board of Health.

9. That the Secretary of this Association be instructed to forward to the National Board of Health a certified copy of these resolutions, together with the reports and documents of the Advisory Council, and that the Executive Committee be instructed to take such action, during the next session of Congress, as may seem best suited to promote legislation in accordance with these resolutions.

Dr. Folsom also read the following resolutions, but said that as the points contained in them were included in those of the Advisory Committee, they were not recommended for adoption :

By Judge J. W. Clapp, of Memphis :

WHEREAS, The appearance of yellow fever as an epidemic in Memphis, Tenn., during the last two summers, has created an apprehension that the ill-fated city may continue to be visited by this scourge, the effects of which extend far beyond the infected locality, and assume national importance, not only as regards the public health and safety, but as affecting our inter-State commercial relations ; Therefore,

*Resolved*, That this Association recognize the fact that the sweeping epidemics which have occurred in Memphis during the past two summers have been of such a character that they are no longer local in their bearings, but *national*; therefore, it is respectfully urged upon Congress the early consideration of measures looking to the prevention of similar epidemics at that point.

By Dr. Gibbs, U. S. Navy : Be it resolved by the American Public Health Association, that it shall be the duty of the National Board of Health to designate for the information of the President of the United States, such foreign ports as shall, by said Board, be deemed infected, in the sense that all vessels arriving from the same into the seaports of the United States, shall be subject to quarantine laws. The previous sanitary history of said foreign ports, based upon consular and other information, shall be considered by the National Board of Health, in designating such infected ports or localities.

Be it further resolved, that it shall be the duty of the President of the United States, upon being so advised by the National Board of Health, to cause a general proclamation to issue in which a list of such ports and localities shall be declared infected in their commercial relations with the seaports of the United States for a period of six months, viz. : from the first day of May until the first day of November.—*Medical and Surgical Reporter*.

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LIMITATION AND PREVENTION OF DIPHTHERIA. By R. L. PAYNE, M. D. Raleigh : P. M. Hale, and Edwards, Broughton & Co., State Printers and Binders. 1879. . . .

This is the Third of the series of health tracts issued by the North Carolina Board of Health. It was written by a member of the Board who has had large and valuable experience in diphtheria. He is prepared to say by actual experience in his own person that diphtheria is contagious, and his advice as to preventive measures should be made familiar to every householder in the State.

The State Board relies upon every doctor in the State to aid in the distribution of these tracts, and we are sure that the readers of the JOURNAL will not need to be advised of the value of the lay teaching.

This, together with the other tracts issued, can be had on application to either member of the Board, or to the Secretary.. If the packages ordered are to be sent by mail, the postage must be sent, and as many tracts will be sent as the postage will cover.

## CURRENT LITERATURE.

TRANSACTIONS OF THE MASSACHUSETTS MEDICO-LEGAL SOCIETY: Volume I. Number 2. 1879. Cambridge. Printed at the Riverside Press. 1879. Pp. 138—xii.

The Massachusetts law abolishing the offices of coroner, and substituting therefor a corps of Medical Examiners, is the foremost step yet taken in this country towards effecting a reform in medico-legal examinations.

So far it has proven to be economical, and an aid to the demands of justice and law. We have not been unobservant of the careful work which has been done by these examiners, and we are confident that a great reform must accrue from this step in the judicial codes of other States.

The pamphlet before us contains several excellent papers. The first is by Medical Examiner, S. W. Abbott, M. D., on "The Evidence of Still Birth." He sums up the evidence that a child has lived during and after the birth, as follows :

1. When the diaphragm reaches only the fifth intercostal space.
2. When the lungs more or less completely fill the thorax.
3. When the ground color of the lungs is broken by insular marblings.
4. When, by careful experiment, the lungs are found to be capable of floating.
5. When a bloody froth exudes from the cut surfaces of the lungs on slight pressure.
6. When the air cells are visible to the naked eye.

These proofs as complete as they are, may be strengthened by the cicatrization of the umbilicus, the scaling of the epidermis, the closure of the fetal ducts, the size of the osseous nucleus of the inferior femoral epiphysis, the existence of milk, sugar, starch or medicines in the stomach, determined by the appropriate chemical tests, and by the presence of faecal matter other than meconium in the lower intestines.

"A Medico-Legal Case of Abortion, followed by the Conviction of the Accused Abortionist," by Medical Examiner, J. C. Gleason, M. D., is well-worth careful perusal. It shows conscientious and

painstaking work, in strong contrast with the perfunctory performance of a coroner's inquest.

Medical Examiner, C. C. Tower, M. D., contributes a paper on the "Clinical and Anatomical Evidences of Abortion," in which is reviewed all the current and standard opinions on the subject, and which will, no doubt, serve as a reference to the student in this branch of medical jurisprudence.

Dr. Tower thinks that: "In regard to the medico-legal value of a well-marked corpus luteum of pregnancy as an evidence of abortion, it seems to me there can be no doubt. As much weight should be attached to its existence as to that of any other single sign, unless, perhaps, the mark of the utero-placental union. \* \* \* Evidently the weight given to the existence of a "corpus luteum depends very much upon the care with which the examining physician conducts his examination, and his ability to interpret correctly the appearance which he discovers. There is reason to believe that most of the reported cases of so-called 'true corpora lutea' in virgins, and their absence in women after delivery, are attributable either to a want of discrimination between the yellow body when dependent upon ovulation followed by conception, or to an inability to recognize that structure when imperfectly developed from any cause, or when deteriorated by changes which have taken place in it after abortion occurred."

A report "on Medical Expert Testimony: What it is and what it ought to be," by a committee consisting of Attorney General Marston, Professor H. P. Bowditch, M. D., T. H. Tindale, Esq., A. E. Pillsbury, Esq., Medical Examiner, Y. G. Hurd, M. D., and Medical Examiner, F. W. Draper, M. D., is given in full. Our quotation will serve to show how fairly the question is discussed.

\* \* "A knowledge of the weaknesses of the present system has permeated the whole community; and the views and opinions of professional men upon this subject have come to be so largely shared by the classes from which jurors are drawn, that it is questionable whether, even now, the production of medical expert testimony in court does not in a majority of cases fail of its object, through the inability of juries to decide, where so many doctors disagree, or their indisposition to pay heed to any, where all are equally positive and many certainly wrong. In this state of things the professional

mind is led to the conclusion either that some improvement upon the existing plan must be devised, or that in practical administration of justice, it is better to forego all benefit of scientific or special knowledge upon the subjects to which expert testimony is usually applied rather than to allow courts and juries to be confounded and misled by a mass of confused and contradictory testimony; about which we can be sure of nothing save that it is hired and paid for." Page 127.

The remedy suggested by the committee embodied in a proposed law, which provides that in any suit in which medical expert testimony is desired by the parties, they may at any time before the trial file in the clerk's office a written agreement that such witness shall be summoned, designating him by name if agreed upon. If no person be designated by the agreement of the parties, the judge may designate a proper person learned in the science of medicine to be summoned as expert witness."

The metric system was adopted by the Society.

The Appendix gives Suggestions for Medico-Legal Examinations of Dead Bodies, being a reprint of the Scotch regulations.

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## THE STORY OF THE NEW REMEDY, BENZOATE OF SODIUM.

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A few weeks ago there appeared in the *Wiener Medizinische Presse*, No. 37, a "preliminary note" on the use of inhalations of benzoate of sodium in phthisis. The writer, Dr. Krocak, announced that in Professor P. von Rokitsky's clinic at Innsbruck, of which he is the assistant physician, most wonderful results had been obtained from them even in most advanced cases; in fact three such were described, in which patients with large cavities, high fever, and in a state bordering on the moribund, were discharged in a month or two as "cured," with great gain of weight, and disappearance of the physical signs of cavities. The solution of benzoate used was one of five per cent. strength, but no details as to the mode of administering the inhalation, or as to the daily

period of using it, were supplied. A few days later, private inquiries, and, later still, a letter from Dr. Krocak himself to an eager patient, elicited the information that the solution was to be inhaled as spray pulverized by a Seigle's apparatus, for an hour, morning and evening. At the same time the patient was to have plenty of fresh air, good meat (one effect of the benzoate being to greatly increase the appetite), and freedom from all depressing influences. The news of the wonderful discovery at Innsbruck spread far and wide in Vienna, and the demand for benzoate of sodium and Seigle's pulverizers soon exceeded the supply. The drug has now been largely tried not only in the General and other Vienna hospitals, but also by family doctors among the sadly numerous class of consumptives in that city, and the *Wiener Medizinische Wochenschrift*, from whose pages much of our present information is derived (see Nos. 39, 40, 41, 43, 44, 1879), affirms as the outcome of all this *furore* that all these experiments "*have failed to yield the slightest favorable result, or a trace of even the most trifling diminution of dangerous symptoms.*" (The italics are those of the paper we quote from.) On the other hand, public opinion in the Austrian medical world has become greatly excited against Professor Rokitansky, first, because he has given his silent support to what it considers the inaccurate statements of his assistant, and secondly, because it regards him as playing the part of a charlatan by taking advantage of the credulity of the lay public, and making capital out of what the doctors consider very like a swindle. This feeling of indignation has led Professor Albert, of Innsbruck, a colleague of Rokitansky, to challenge him to public demonstration of his cases before the medical profession of that town, and has even extracted a cry of "*amoveatur*," or "Let him be removed from his chair," from the editor of the *Wiener Medizinische Wochenschrift*.

Nevertheless, in spite of this ontery, there is reason for believing that inhalations of benzoate of sodium may arrest septic processes (and there is no doubt that the later stages of phthisis are accompanied with, or dependent on, septic processes) in the lungs. Dr. Schüller, of Griefswald, (*Archiv. für Exper. Pathologie*, Band xi., Heft 1, 2) has recently shown that if rabbits are rendered tuberculous by making them imbibe, through a tracheotomy wound, caseous or scrofulous matter, or the bacteria which Klebs has obtained by

cultivating infusions of such matter, the diseased process can be arrested by making the animals inhale either the benzoate solution or creasote water for a lengthened period. If two rabbits of the same age and weight are treated, the one with inoculation alone, the other with inoculation *plus* inhalation, the latter rapidly gains weight and recovers its health, the former falls away and dies. Moreover, Dr. Schüller, in a modest letter published in the *Wiener Med. Woch.*, No. 40, referring to these researches and to their application to the treatment of human phthisis, declares that we have also in Greifswald been able to convince ourselves repeatedly of the extraordinary good results of the use of the drug in men."

Lastly, there is no question that benzoate of sodium has anti-septic properties, probably dependent on its "anti-bacterial" influence. For the above reasons we prefer to suspend our judgment in this matter, and wait for a more unprejudiced investigation of the reliability of Krocak, Rokitsky, and Schüller's statements.—*Medical Times and Gazette.*

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## THE HAVANA COMMISSION.

Preliminary Report of the Havana Commission of the National Board of Health, submitted November 18th, 1879.

By. S. E. Chaillé, M. D., Chairman, and G. M. Sternberg, M. D., U. S. A., Secretary.

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It will be remembered that this Commission sailed for their destination on the 3d of July, arriving in Havana on the 7th, and that the period of their investigation extended over four months. We do not think it necessary, therefore, that they should apologise for an incomplete report. We will, therefore, only point out the outline of what was done, feeling satisfied that our readers will embrace the first opportunity to acquaint themselves with the work.

The details of organization show that the commission was liberally provided with the appliances for microscopical and other work.

The first section of their report is devoted to a description of the seaports of Cuba from which shipments are made to the United



States, followed by a sketch of the history of epidemics of yellow fever in Cuba. Under the head of "Causes of Endemicity" we find the following concluding paragraph: "The whole truth has very certainly not been fathomed, but this much of it is indisputable: Wherever in Cuba a town exists which has the greatest commercial intercourse, the most numerous unacclimated population, the least exposure to the winds, and houses the most crowded together, densely inhabited and filthy, the worst ventilated and drained, there a town will be found wherein the endemic prevalence of yellow fever is most marked."

The remarks on climate in connection with the prevalence of yellow fever set forth nothing new, except an observation made "Dr. Carlos Finley, a chemist and distinguished physician of Havana," who "claims to have discovered an important correspondence between the prevalence of yellow fever and the varying degree of alkalinity of the air at Havana." Dr. Finlay gives a report upon the subject in an addendum.

The specific statements of the insanitary condition of Havana, leave no room for doubt that it is shockingly bad. The water supply is poor and inadequate; the soil is badly drained; more than half of the population of Havana live on streets which are in a foully insanitary condition; the houses are not models of good construction and especially those occupied by the working classes are cheerless and comfortless, the privy being under the same roof with the kitchen, and excavation in the ground in juxtaposition to the privy receives the slop water, neither being emptied until they will hold no more, making it altogether as complete a description of domestic nastiness as we could imagine.

Although most of the sewers discharge into the bay, notwithstanding this, the water of the harbor failed to present evidence of special putridity. The salt water seemed to overcome the foulness of the sewage to a considerable degree, so that organisms usually found in filthy masses, were discovered, but dead, in the salt water. The Commission states that although the water of the bay is foul near the wharves and shores, it would be better economy to pave the streets and build stone wharves, than to attempt purification of the water.

We will not weary our readers by following the Commission

through the means suggested to make the insanitary conditions of Cuban ports satisfactory, but will hasten on to the pathological investigations which were so specially emphasized by the National Board and the Commission.

We cannot help feeling that it was a mistake to publish the barren results given on this subject. The Commission knew perfectly well that such a work must be cautiously and patiently undertaken, with the determination to cover years instead of months, and while it was not enough to make an official statement, they could expect nothing but adverse criticism would be likely to be aimed at them.

Their work in this respect has been negative.

Only two points deserve to be specially noticed. The examination of the air of yellow fever wards revealed "that certain slender glistening acicular crystals radiating from little opaque masses, which were especially abundant" in these yellow fever wards, "and in the soiled linen room of the military hospital." What gives peculiar significance to these bodies is, that they have been found in the air of infected localities in Morgan City, Centreville and Bayou Boeuf, in Louisiana, while the air of New York hospitals contained none of these acicular crystals.

The next item is given in an appended report by Charles Finlay, M. D., of the Spanish Commission, on the alkalinity of the atmosphere of Havana. His general deductions are :

(a). The Havana atmosphere is constantly alkaline.

(b). The alkalinity is strongly marked and increases from May to August, decreases from September to December, and remains low from January to March or April.

(c). Even in the months of low alkalinity it now and then happens that a comparatively high figure is occasionally observed, but the general truth of the above propositions does not seem to be materially affected as regards the average and maximum curves.

(d). In all parts of the island where the alkalinity has been tried it has been found to exist, though always inferior to that observed in the city of Havana at the same seasons of the year. The number of observations on this point is, however, too limited to warrant any general deduction.

(e). A tendency is observed on the part of the volatile alkali of the Havana atmosphere to form acid salts whenever the acidulated

litmus contains an excess of free sulphuric acid, thereby showing the alkali to constitute a weaker basis than simple ammonia—more likely some volatile alkali of the compound ammonia type.

It must be remembered that this report is only a preliminary one. This investigation is without doubt a move in the right direction. It is certainly in good hands. It is sure to bring about good results.

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### GLYCERINE AS A FOOD.

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Some years ago glycerine was proposed as a supplementary food, capable it was even said, of taking the place of cod liver oil in the nutrition of the invalid. The recommendation was made upon theoretical grounds; and received little confirmation from experience. Careful observations which were made, especially by the late Dr. Cotton, at the hospital for consumption, failed to show that it produced any effect on nutrition such as results from the administration of cod liver oil. The opinion was thus formed that glycerine possesses little or no claim to be regarded as a food. The question has not, however, until now, received much scientific investigation.

The effect of glycerine on the interchange of material in the organisms—i. e., its value as a food—has lately been studied by Dr. Immanuel Munk, in a series of experimental inquiries undertaken at Berlin, the results of which are published in the current number of Virchow's *Archiv*. The question is of interest not merely because glycerine has been proposed for the purposes above stated, and is occasionally administered as a vehicle for certain drugs, or to the diabetic as a substitute for sugar, but also because it is, in one sense, a constant article of diet. It is known that fat is decomposed in part in the alimentary canal, under the influence of the intestinal mucus, into its fatty acid and glycerine, and the amount of this decomposition is at present unknown. Again, all wines contain a certain quantity of glycerine, which is one of the products of the alcoholic fermentation of sugar. Pasteur says that natural wine contain from six to eight grammes of glycerine per litre, while

Neubauer puts the amount in the same volume at seven to eleven grammes. Moreover, it has been proposed to use glycerine as a preservative agent. Munk has shown that the addition of two or three per cent. of glycerine to milk will postpone the lactic-acid fermentation for from eighteen to twenty-four hours. It is, therefore, important to know what influence is exerted by this substance in the vital processes of the toxic effect of large doses we possess (no) information; the experiments of Munk have reference to the effect of the digestion of small quantities. Whether any nutritive value can be ascribed to glycerine and what quantity may be taken without interference with the processes of the body, are the points to be considered.

Any substance introduced into the economy may influence the decomposition of material in two ways—by increasing or diminishing, on the one hand, the destruction of nitrogenous material, or the exchange of albumen, and on the other the excretion of carbonic acid and absorption of oxygen. The effect of glycerine on the latter has been already studied by Scheremetjewski. But it is to former point, the effect on albuminates, that attention must especially be directed to determine the food-value of any substance. This is indicated by the effect on the excretion of nitrogen, and in the case of man and the carnivora, the nitrogen passing away by the urine and faeces affords the necessary information. The value of the observations of Catillon on this point is lessened by the fact that the diet of the animals experimented on was not strictly regulated.

It has been found that large quantities of glycerine produce hæmoglobinuria and also diarrhoea, both of which disturb the accuracy of observation. It was necessary, therefore, to give such doses of glycerine as should not produce these effects, and in the case of dogs not to exceed twenty-five to thirty grammes daily. These quantities were found by Munk in no way to modify the excretion of nitrogen. Any influence of glycerine, at least in medicinal doses, on the exchange of albumen may thus be put aside. According to the ordinary definition of food, glycerine does not possess any nutritive value. If, however, the urine is only examined, there is found a slight diminution in the amount of nitrogen, as observed by Catillon. This is quite compensated for by the increased excretion of the bowel.

What is the fate of glycerine introduced into the economy? Is it decomposed or excreted? and if the latter in what form? When large doses are given so as to produce hæmoglobinuria, the urine contains a substance which readily reduces copper, but has been said, on the ground of its effects on polarized light, not to be sugar, but to be probably a decomposition or transformation product of glycerine. According to Plosz, moreover, it is not capable of fermentation. It is very difficult to say whether any unaltered glycerine passes away, since the detection of a small quantity in the urine is a matter of great difficulty. It seems certain, however, that the greater part, if not all, is decomposed in the organism, and that when moderate quantities only are given the decomposition is complete. It was observed by Weiss that the quantity of glycogen in the liver is increased by the administration of glycerine. From the analogy with other substances which have a similar effect, such as albumen, gums, &c., Munk suggests that glycerine absorbed from the intestines and carried by the portal vein to the liver, is not itself transformed into glycogen, but rather, by its quick decomposition, limits the use of the liver glycogen, or furthers its formation from other materials. However this may be, the glycerine undergoes decomposition without its products having any influence on the changes in albumen, such as the carbo-hydrates, but it is rather to be regarded as an alcohol—the tertiary alcohol of the propyl series.

The solubility of glycerine renders it highly probable that the greater part of that which is taken into the stomach passes rapidly into the blood. A small part may be unabsorbed, and in the lower part of the intestine may undergo fermentation and reduction, with the formation of butyric acid, &c., although this decomposition can take place only in the neutral liquid—a condition not easy to obtain in the intestine. Gorup-Besanez has also shown that, in the alkaline solution, the action of oxygen in active state breaks glycerine up into formic, propionic, and perhaps acrylic acids. There is some probability that, in the tissues, where similar conditions obtain, the same decomposition may occur, and the intermediate products, propionic and formic acids, may be further oxydized to their ultimate products, carbonic acid and water. Scheremetjewski showed that the ingestion of glycerine causes an increase in excretion of carbonic acid; which Chatillon has affirmed may

amount to seven per cent. This increase in the production of carbonic acid must be accompanied by the liberation of its equivalent of heat, and so the generation of heat should be increased by the administration of glycerine. Hence, there is the highest probability that glycerine may be of service in this respect, but that it is of no value as a tissue-food.—*London Lancet*.

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### THE MEDICAL COLLEGES.

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It is rather interesting reading we are getting just now in our various exchanges on the status of the different colleges. We, in North Carolina where there are no medical colleges to claim our interests and affections, look with considerable equanimity upon the heated opinions of which the long-term editors have of the short-term editors, and conversely. What is it gentlemen that you find so sweet and delicious in the business that causes you to slash at each other so constantly about? It can hardly be money, for doctors are notoriously indifferent to filthy lucre! Can it be the honor of teaching a school of boisterous, inattentive students? It cannot be that, for school-teaching was always considered drudgery! Can it be that in making friends of these young fellows, that they act as feeders to your consulting rooms? This would be a slow way to fortune! Just for the sake of the honor of being a Professor of this or that in the Medical Department of the University of —— is it? Well we give it up, and hope you will quit quarelling, for to our rural mind it looks like the medical family was going all to pieces. You certainly confuse us in your arguments beyond any hope of extrication.

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*A propos* to the subject of Medical Colleges we have received the 97th Annual Catalogue of the Medical School of Harvard University, and looked first for the "examination papers." Now! that strikes us as the way to do it. We say give it to them! These young fellows ought to be ready to answer this and a lot more before they come in our side of the fence. There are already too many consumers for the size of the crop. Strain them, strain the rowdy

students through a fine gauze net, and give us old fellows a living chance. And when we get hold of them in North Carolina we are going to strain them over again, just as they make fine window-glass rosin in this country. We are for a higher standard! (for all those out of the ring.)

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*Sir Thomas Watson, M. D., on Animal Vaccination.*—On the subject of vaccination with bovine virus, the eminent London physician, Sir Thomas Watson, writes to the *Pall Mall Gazette*: "Several letters have lately appeared in the *Times* newspaper, respecting what is called animal vaccination. In one of the numbers of the *Nineteenth Century* vaccination on and from the calf was earnestly advocated by me, as carrying with it the potential extinction of the only valid objection that can be alleged against vaccination in general; and justifying, therefore, the needful compulsion of vaccination by force of law. The anti-vaccination party have attempted to enroll me among the writers who have adopted their views. I ask leave, therefore to inform you and your readers that my sole object has been, and is, to prove by vaccination, properly and universally effected, the hideous, disfiguring, dangerous, and in a majority of cases fatal distemper, small-pox, may with certainty be extirpated from this country—I might say from this world."—*Medical and Surgical Reporter*.

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*Battey's Operation in Germany.*—Dr. Schücking (*Centralblatt für Gynäkologie*, den 27 Sept., 1879,) performed Battey's operation on a woman 37 years of age, the mother of six children. The grounds for the operation were marked hysteria, epileptic attacks, metrorrhagia, with painful menstruation and trismus. Bromide of potassium, iron, massage, baths, valerian, morphia, chloral hydrate, rubbing in tincture of iodine over the region of the ovaries, and the administration of Fowler's solution, were ineffectual. It was, therefore, resolved to operate. The ovaries were removed through an abdominal incision, and the pedicles secured with a catgut. The Listerian method was employed in all its details. The spray was  $2\frac{1}{2}$  per cent. solution of carbolic acid. Hardly a drop of pus was present in the wound on the tenth day after the operation. The recovery was rapid and the result of the operation most gratifying. The abdominal pain, the uterine bleeding, the cataleptic attacks, the trismus and other symptoms had vanished. The patient now feels well and healthy. Microscopical examination of the ovaries gave no positive results, scarcely any discernible pathological changes having taken place.—*London Medical Record*.

## MEDICAL ANNOTATIONS.

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*Supra-Pubic Lithotomy in a Female Child.*—At a recent meeting of the London Pathological Society a case of supra-pubic lithotomy was reported. Crushing was attempted but the lithotrite would not "bite" on it. The stone was removed, and was found to be composed of phosphates collected around a hair-pin, the points of which were protruding from the calculus, and had wounded the bladder, causing abscess.

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Our esteemed friend, Dr. J. J. Summerell, Superintendent of Health, of Rowan County is moving vigorously towards the improvement of the sanitary condition of Salisbury. Mayor Ramsay is seconding his efforts, and has given notice that if after ten days the sanitary regulations are not carried out, the penalties of violated ordinances and State laws will be imposed upon all who fail to comply. What are other towns doing?

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*Animal Vaccination.*—It looks a little odd to us in America to see with what warmth it is necessary for the British medical journals to treat the subject of animal vaccination, in order to make a favorable impression. The *Medical Times and Gazette* has a very good article on the subject (November 29th) and points out the great advisability, and the absolute necessity of a State supply of animal vaccine, to meet sudden and large demands for vaccine lymph, and to remove the only reasonable objection against humanized virus—the possibility of inoculating syphilis.

We have gone quietly through the great reformation in vaccine practice in this country, and but very few care to give the proper credit to the reformer. In fact, some do not even know that we owe a deep debt of gratitude to Dr. Henry A. Martin, of Boston, for his hard and earnest work, and his final triumph against all opposition in the establishment of animal vaccination.

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*Diphtheritic Hyperæmia.*—"A very rare form of diphtheritic hyperæmia without exudation," [known to so many of our friends who having been nursing diphtheria, as the nurse's sore throat] "but in which the sequelæ of diphtheria occur, is occasionally seen in those who have been in attendance on diphtheritic patients. It is important to note that this form is confined almost exclusively to adults."—Lennox Browne's "Throat and Its Diseases," p. 171.

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*The Value of Ether in Combination with Cod Liver Oil.*—The Committee of the New York Therapeutical Society make the following report:



1. The addition of ether to cod liver oil about the proportion of fifteen minims to each half ounce (or an equivalent amount of compound spirits of ether) will succeed in the vast majority of cases in enabling the patient to take the oil, even though it previously disagreed.

2. That in some cases in which the oil still disagreed after the addition of ether, the difficulty may be overcome by giving the ether separately from fifteen minutes to half an hour after the oil is taken.

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*The Physiology of Sweating.*—Sweating can be induced by reflex action, and also in a very marked and singular manner by jaborandi, and by the active principle of that drug—pilocarpin. In from three to five minutes after the subcutaneous injection of a solution of hydrochlorate of pilocarpin, in man, the flow of saliva increases, perspiration appears, first on the head, and then gradually over the whole body, and lasts about an hour, or, if the patient be in bed, for two or even three hours. This effect, Luchsinger thinks to be due to the pilocarpin acting as a direct stimulant to the nerve centres. He tied the abdominal aorta in a cat, and then injected pilocarpin into a vein. Under these conditions the pilocarpin was unable to reach the glands in the posterior extremities, and thus to act as a direct stimulant; nevertheless the feet were soon bathed in sweat. Atropin inhibits the secretion of sweat, for if after the injection of one one-hundredth of a gramme of pilocarpin, three one-hundredths of a gramme of atropin be injected, the commencing perspiration is arrested in about ten minutes. If now a hundredth of a grain of pilocarpin be injected into one of the feet, beads of sweat burst forth on this foot; but the rest of the body being still under the influence of atropin remains dry.

An acid reaction is generally attributed to this secretion, but Luchsinger and Truempy have ascertained that in man as well as in the cat the reaction is really alkaline, and that the acidity which has been observed is due to the fact that the secretion of the sebaceous glands is ordinarily acid, or rather becomes so in the action of decomposition to which it is prone.—*London Lancet.*

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## OBITUARY.

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EDMUND STURDWICK, M. D.

We have space merely to announce the death of the venerable Edmund Sturdwick, M. D., at his home in Hillsborough. The January JOURNAL will contain a biographical sketch written by an intimate friend.

FREEMAN J. BUMSTEAD, M. D., LL. D.

We are pained to see the death of Dr. Bumstead announced in the New York medical journals. He died on the 28th of November, aged 53 years. He is best known to American physicians as the author of a work on Venereal Diseases, a work that has been the text-book and guide of general practitioners in this country for fifteen years.

Dr. Bumstead's talents were of a versatile character, for although we only knew him prominently as a syphilographer, he was an ophthalmic surgeon as well.

We notice that Prof. Eaton and Prof. Meehan both refer to his discoveries of new ferns in their beautiful works on "Ferns and Flowers," indicating that he had the cultivated tastes of a botanist.

Dr. Bumstead will be sincerely mourned by the medical profession in the South.

J. FRANCIS KING, M. D.

Dr. J. Francis King died in New York city, December 1, 1879, in the 48th year of his age.

Dr. King was a native of Beaufort, N. C. After obtaining his degree in New York, he settled in Washington, N. C., where he soon took a leading stand as a practitioner, and through his great energy and industry, and devotion to his patients, he acquired in a marked degree for so young a physician the confidence and respect of the community.

When the war came on he joined the army as a Regimental Surgeon, and was highly esteemed by both officers and men. After remaining about two years in the service he resigned and went to Tarborough, where having remained a short while and his wife having died, he finally removed to this city early in the Fall of 1864.

Dr. King soon exhibited those qualities here that had previously marked him out for a successful and popular professional career.

In the practice of medicine he was careful and cautious in his diagnosis, kind and gentle in his demeanor in the sick room, full of resources, and free from ostentation.

In the department of surgery Dr. King evinced a superior order of talent; he was a diagnostician of accurate judgment and a skilful operator.

He was the readiest of experts in an emergency, adapting means to ends under the most trying and dangerous circumstances, and never for a moment losing his self-possession.

Dr. King was kind and true in all his family relations, and never a man had stronger or more devoted friends. He was almost idolized by many of his patients.

The unusually large attendance at the last sad rites evinced the estimation in which he was held by all classes of his fellow-citizens.

Dr. King married again a year or two after the war Miss Neilson, of New York.

An excellent physician, a good citizen, a true friend, hath gone from among us.

W. W. L.

## ANALYSIS OF A CIGAR.

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To the world in general a cigar is merely a tightly-rolled packet having brittle fragments of dry leaves within, and a smooth, silky leaf for its other wrapper. When it is burnt, and the pleasantly-flavored smoke inhaled, the habitual claims for it a soothing luxury that quiets the irritable nervous organism, relieves weariness, and entices repose. Science, scouting so superficial a description, examines first the smoke, second the leaf, third the ash. In the smoke is discovered water in vaporous state, soot (free carbon), carbonic acid and carbonic oxide, and a vaporous substance condensable into oily nicotine. These are the general divisions, which chemists have still further split up, and in so doing have found acetic, formic, butyric, valeric, and proprionic acids, prussic acid, creosote and carbolic acid, ammonia, sulphuretted hydrogen, pyridine, viridine, pidoline, lutidine, collodine, parvoline, corodine, and rubidine. These last are a series of oily basés belonging to the homologues of aniline, first discovered in coal tar. Applying chemical tests to the leaves, other chemists have found nicotia, tobacco, camphor or nicotianine (about which not much is known), a bitter extractive matter, gum, chlorophyll, malate of lime, sundry albuminoids, malic acid, woody fibre and various salts. The feathery white ash, which in its cohesion and whiteness is indicative of the good cigar, yields potash, soda, magnesia, lime, phosphoric acid, sulphuric acid, silica, and chlorine. The ingredients extractible from a poor and cheap cigar, would be fearful and wonderful to contemplate. Here is a list from a Parliamentary Report on adulterations in tobacco: Sugar, alum, lime, flour or meal, rhubarb leaves, saltpetre, fuller's earth, starch, malt commings, chromate of lead, peat moss, molasses, burdock leaves, common salt, endive leaves, lampblack, gum, red dye, a black dye composed of vegetable red and liquorice, scraps of newspaper, cinnamon stick, cabbage leaves and straw brown paper.—*The Garterer*.—*The Sanitarian*.

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Have you paid your subscription for 1879?

## BOOKS AND PAMPHLETS RECEIVED.

Case of Incomplete Vitilligo. By J. Edmondson Atkinson, M. D. Reprint from the Archives of Dermatology.

Some Phases of Cerebral Syphilis. By J. Edmondson Atkinson, M. D. Reprint from Trans. Med. Society of Virginia.

Annual Report of the Commissioner of Agriculture for the year 1878. Washington: Government Printing Office. 1879.

Annual Report of the Board of Health of the Births, Marriages, and Deaths in the City of Richmond, Va., for the year 1878.

Oesophagismus Completely Cured by the Passage of a Sound. By J. J. Henna, M. D. Pp. 12. Reprint from Hospital Gazette.

The Evil and the Remedy of the Privy System of New Orleans. New Orleans Auxiliary Sanitary Association. 1879. Pp. 20.

Etiologie et Pronostic de la Glycosurie et du Diabète Par Le Docteur Jules Cyr. Paris. V.—Ad. Deluhaye et Cie. Paris. 1879.

An Address from the Auxiliary Sanitary Association of New Orleans, to the other cities and towns in the Mississippi Valley. New Orleans. 1879. Pp. 20.

Address delivered before the New Orleans Auxiliary Sanitary Association. By John H. Rauch, M. D., President Illinois Board of Health. New Orleans. 1879. Pp. 13.

Transactions of the Mississippi State Medical Association. Vol. xii. Aberdeen, Mississippi. 1879. Pp. 209. Jackson, Miss.: Clarion Steam Printing Establishment.

Report of the Board of Directors and the Medical Superintendent of the Central Lunatic Asylum. (For Colored Insane). Virginia. Fiscal year 1878-79. Richmond: R. E. Frayser. 1879.

The Physicians Daily Pocket Record, comprising a Visiting List, and many useful memorandas, tablets, etc. By S. W. Butler, M. D. Edited by D. G. Brinton, 115 South Seventh St. Philadelphia, Pa.

Report on Milk and Dairies in the City of New Orleans, Presented to the New Orleans Medical and Surgical Association. Published by the Auxiliary Sanitary Association. New Orleans. 1879. Pp. 16.

Some Important Topical Remedies and their use in the Treatment of Skin Diseases. By John V. Shoemaker, A. M., M. D. Philadelphia: Reprint from Transactions of Medical Society. State of Pennsylvania.

Limitation and Prevention of Diphtheria. By R. L. Payne, M. D., North Carolina Board of Health. Pp. 10. P. M. Hale and Edwards, Broughton & Co, Printers. 1879. FOR GRATUITOUS DISTRIBUTION.

The Radical Cure of Hernia by the Antiseptic Use of the Carbolyzed Cat-gut. Ligature. By Henry O. Marey, A. M., M. D. Cambridge, Massachusetts. Reprint from Trans. Am. Medical Association. 1878.

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